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A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL MANUFACTURER, FORMULATOR AND DEALER

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Farm Transition Financing Proposal Receives Support

Government Backed Loans Seen as Aid In Land Use Change

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON — Recognition of the problems facing Ezra Taft Benson, secretary of agriculture, in his period of transition from a field crop to a cover-pasture livestock economy on as much as 35 million acres is coming not only from within the U.S. Department of Agriculture itself but also from competent outside agricultural sources.

In the recent issue of Nation's Business, published by the Chamber of Commerce of the United States, O. B. Jesness, head of the Institute of Agriculture of the University of Minnesota, contemplates the possibility that Sec. Benson may lead the way in advocating financial inducements to persuade farmers to switch.

There is a substantial bloc of informed and competent opinion within USDA itself that the transition can only be accomplished through some financial incentive since the transitional period in most instances will require at least three years for most farms.

In the meantime through a slow educational process spearheaded by the Extension Service, there is a chipping-away process in effect whereby

(Continued on page 21)

Mid-South Chemical To Build $1 Million Anhydrous Terminal

MEMPHIS — Mid-South Chemical Co. plans to build a one million dollar distribution terminal for anhydrous ammonia on Presidents' Island in the Memphis harbor, it was announced here recently.

As part of the project, which Mid-South hopes to have in operation by March 1, a battery of 15 tanks of 30,000 gal. capacity each for storage of the ammonia will be erected. A specially constructed barge with a capacity of 800 tons in its six pressurized tanks, and 100 railroad tank cars has been acquired for distribution of the agricultural chemical.

Mid-South is negotiating to buy eight acres on Presidents' Island from the city.

The new terminal, plus the storage facilities which Mid-South has at its 85 distributing agencies in six states, gives it storage space for about five million gallons of ammonia.

Under the current expansion program the company will have access

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Future Role of Weed Control Outlined at Northeast Meeting

By WALTER C. SMITH
Croplife Editorial Staff

NEW YORK — The "unfinished business" role of chemicals in weed control and future prospects received attention at the ninth annual meeting of the Northeastern Weed Control Conference held here Jan. 5-7.

More than 385 weed control research workers and representatives of the agricultural chemical industry registered during the first day.

"Progress in the future will be more difficult as the weed problems become more demanding for specificity, and there will be an increased need for adequate coordination of effort," M. W. Parker, agricultural administrator, Field Crops Research Branch, U.S. Department of Agriculture, said in the opening address.

Noting the concentration of herbicide manufacturers in the Northeast, he told the conference that this geographical proximity was, and still remains, an impetus toward close cooperation between federal and state agricultural experiment stations and the chemical industry.

Mr. Parker drew attention to contributions made by the industry and added that industry participation is encouraged in the conference's deliberation and objective.

"Accomplishments have been great, but with the rapid development of weed control work during the past 10 years we may have been forced into some patterns of operation that may need to be re-examined," he said.

Mr. Parker emphasized the serious lack of well trained personnel for work in specific areas. In this connection he repeated remarks made in his previous address at the North Central weed control conference in Fargo, N.D., Dec. 6.

(Continued on page 8)

Nitrogen Division, Bethlehem Steel Get GSA Awards

WASHINGTON — Nitrogen Division of Allied Chemical & Dye Corp., New York, and Bethlehem Steel Export Corp., New York, have received awards for two 1,400-ton lots of nitrogenous fertilizers for Lebanon, the General Services Administration announced Jan. 3.

Bethlehem Steel bid $47.70 per net metric ton fas vessel Baltimore, on 1,400 tons of ammonium sulfate, while Allied quoted $53.41 per ton fas vessel Norfolk or Newport News, on a similar quantity of nitrate of soda, GSA said.

Fumigation Test For Khapra Beetle Control Scheduled

EL CENTRO, CAL.—A fumigation experiment to test methods of controlling khapra beetle is to be held in January, according to the California State Department of Agriculture. The test will be held in a warehouse in Imperial County.

Cost of the experiment is expected to be $6,000, to be financed jointly by the state, the federal government and the warehouse owner.

Charles V. Dick, chief of the Division of Plant Industry, California Department of Agriculture, said that if the test is effective, Gov. Knight of California will be asked to provide emergency funds to cover further fumigation efforts.

Hercules Increases Price of Toxaphene

WILMINGTON—Effective Jan. 3 the price of toxaphene has been increased to 20¢ lb., according to an announcement by Hercules Powder Co. Former price was 19¢ lb.

The increase is a result of increased cost of labor and raw materials, Hercules said.

Progress Noted in Control of Fire Blight in Orchards With Antibiotics

Progress in experimental work with antibiotics for control of fire blight in orchards was reported recently at meetings in Missouri and Delaware. According to these reports, antibiotics for agriculture will move further out of the research realm and into the area of practical application during 1955. Meanwhile, a Merck & Co. research team has reported on trials with agricultural Streptomycin. For other stories on antibiotics see the folllowing in Croplife: page 7, April 26, 1954; page 20, Sept. 13, 1954, and page 8, Sept. 27, 1954. The reports follow.

More Economical Control Reported

COLUMBIA, MO.—Fire blight of apple trees can now be controlled with antibiotic sprays at lower cost than was previously thought possible, Dr. Robert N. Goodman, assistant professor of horticulture at the University of Missouri, told a group of Missouri apple growers Jan. 3. He said that successful control of fire blight can be achieved with as little as 25 to 50 parts of Agri-mycin, a Terramycin-Streptomycin spray mixture, to each one million parts of water.

Tests conducted by Dr. Goodman

(Continued on page 20)

Use by Growers To Be Recommended

DOVER, DEL. — Results of tests using streptomycin preparations in control of fire blight during the last two years "have been so striking that they will be recommended for grower use during 1955 in several states, including Virginia," A. B. Groves, Virginia Agricultural Experiment Station, told the recent meeting of the Peninsula Horticultural Society here.

He said that Virginia recommendations will suggest the use of streptomycin, or preparations con-

(Continued on page 20)

Antibiotic Effective, Researchers Report

WASHINGTON — Streptomycin has been effective in controlling fire blight of pears and apples, walnut blight, wildfire of tobacco and bacterial spot of tomatoes, according to a report by a research team of Merck & Co., Inc., Rahway, N.J.

Authors of the report were Dr. John D. Garber, Dr. John W. Rothrock, Harold C. Reynolds and Dr. Reed A. Gray of the Merck Research Laboratories.

Agristrep, Merck brand of a solu-

(Continued on page 20)

Brea Chemicals Names Ronald L. Clark Market Research Head

LOS ANGELES—Ronald L. Clark has been appointed supervisor of market research and development of Brea Chemicals, Inc., Brea, Cal., subsidiary of the Union Oil Company of California, it was announced recently by Jack Tielrooy, manager of development for Brea. Mr. Clark was formerly assistant director of market research for the Vick Chemical Co. and subsidiaries, New York.

He will direct the s udy and analysis of markets for new products developed by Brea's Research Department and considered for possible manufacture by Brea. Brea products include ammonia, aqua ammonia, aqua ammonia phosphate, dry ice, ammonium sulfate, sulfur and mercaptans. Plans have been announced for a new ammonium nitrate plant.

A native of Yonkers, N.Y., Mr. Clark is a graduate of Syracuse University and has a masters degree in commerce from the University of Pittsburgh. Before joining the market research staff of Vick Chemical Co., he was market analyst and research chemist for Heyden Chemical Co., Garfield, N.J., and worked for Corn Products Refining Co. in sales development at Mellon Institute in Pittsburgh.

State Chemist Retires

ST. PAUL—H. A. Halvorson, chief chemist for the feed and fertilizer laboratories of the Minnesota Department of Agriculture, has retired after 43 years of service. He has headed the state's feed and fertilizer control section since 1919.

CORN CONTEST

JACKSON, GA.—W. C. Garr won the 1954 corn contest sponsored by the Jackson Kiwanis Club with a yield of 151 bu. an acre.

Canners to Hear About Fertilizers, Pesticides

URBANA, ILL. — More than 150 members of the vegetable canning industry in Illinois are expected to register for the Illinois Canners School at the University of Illinois here Jan. 11-13.

Topics for discussion include liquid fertilizers and equipment for applying them, nitrogen fertilizer experiments in sweet corn and processing crops, antibiotics and agriculture, experiments with antibiotics for control of Stewart's disease in sweet corn, effect of surfactants in fertilizer on plant growth, insect control and latest in chemical weed control.

To Make Granular

BALTIMORE—Fertilizer Manufacturing Cooperative, Inc. here has installed equipment for production of granular fertilizer. Albert Spillman is general manager of the company.

Ralph S. Waltz

Ralph S. Waltz Named Vice President of Wilson & Geo. Meyer

SAN FRANCISCO — Ralph S. Waltz has been promoted to be vice president and manager of the agricultural department of Wilson & Geo. Meyer & Co., L. N. West, executive vice president, announced recently.

Mr. Waltz joined the Meyer firm in 1945 after four years in the navy. He became manager of the agricultural department in 1951. He has been associated with the Agricultural Extension Division of the University of California after his graduation from the university and prior to joining the navy.

Wilson & Geo. Meyer & Co. distributes agricultural and industrial chemicals in the western U.S. The firm distributes the entire output of the Garfield, Utah, plant of Western Phosphates, Inc.; handle the phosphatic fertilizers produced by Stauffer Chemical Co. at its plants in Vernon and Stege, Cal. and Tacoma, Wash., as well as potash and other agricultural plant foods. The company also represents on the Pacific Coast Norsk Hydro, manufacturers of Norwegian calcium nitrate and urea.

The Meyer firm has its head office in San Francisco with district offices in Los Angeles, Fresno, Portland, Seattle, Salt Lake City and Phoenix.

Clover Fungi

SACRAMENTO — Persistent cool wet weather is favoring development of the clover rotting fungus sclerotinia, in some northern California ladino clover fields. Control demonstrations using PCNB have been staged, and several ranchers are cooperating in a control program using agricultural aircraft.

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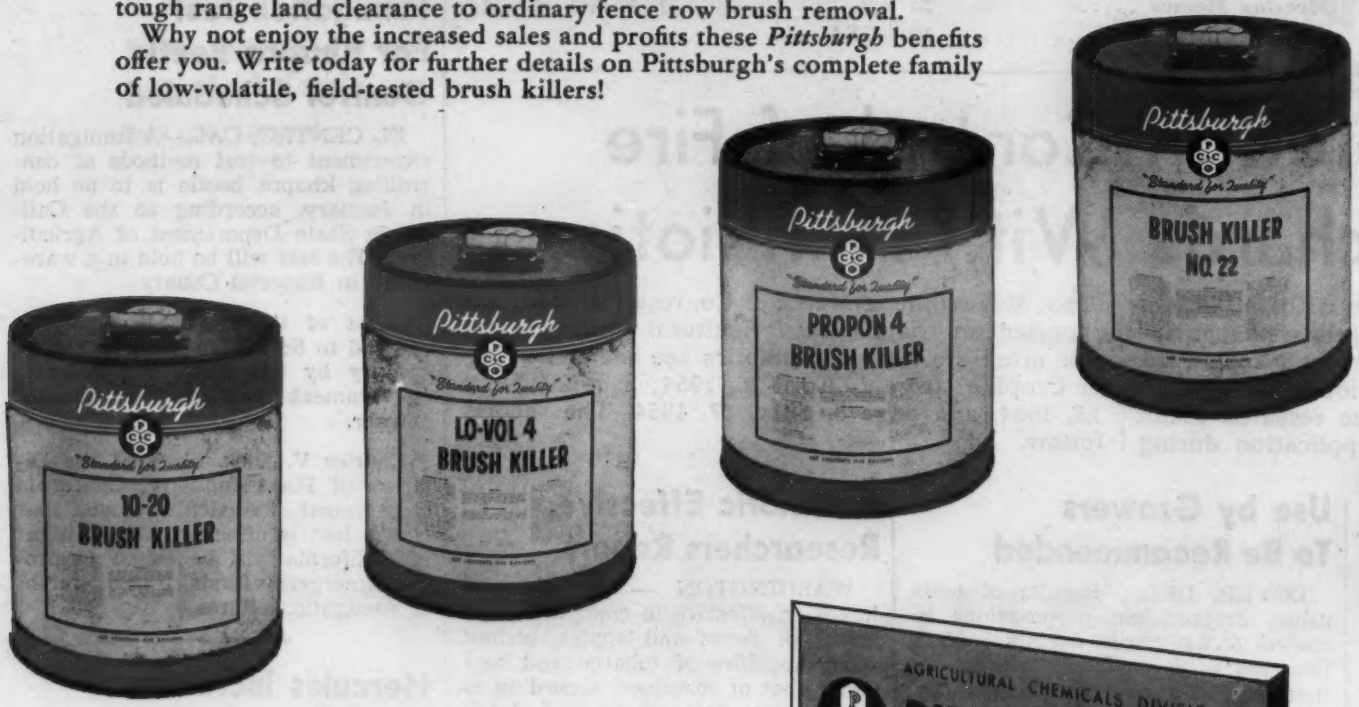

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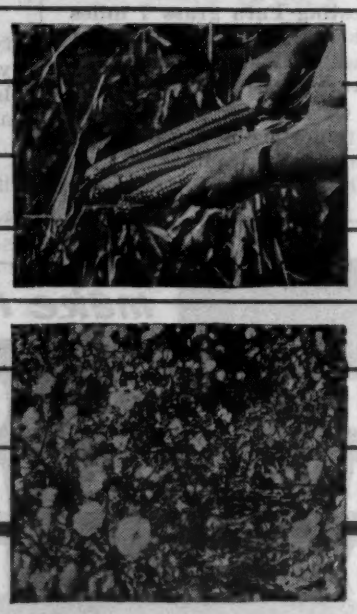

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INSECT AND PLANT DISEASE NOTES

Tennessee Counts Weevil Population

KNOXVILLE, TENN. — James Locke, State Department of Agriculture, has completed the fall boll weevil hibernation survey in McNairy County. This work revealed that an average of 311 live weevils per acre went into hibernation this fall. This number compares with 31 weevils per acre in 1953, 2,259 in 1952 and 239 in 1951. Weevils ran from 0 to 1,866 per acre in the fields checked this year.

Weevils were not found in all fields checked. They were found to be scattered and in areas that had had late growing cotton where fall rains had occurred, and in bottom land fields. Dry hilly areas had few or no weevils. Counties other than McNairy that had weevils last fall and have similar conditions can expect to have similar numbers of weevils in hibernation at this time. This number of weevils is not serious, but it will provide a seed crop for next season.

A similar survey will be run this spring, it is planned, to determine the number of weevils surviving the winter.

Pink bollworm, a very destructive pest of cotton in several states south of Tennessee, has never been in this state. However, since the area of infestation is gradually spreading, a survey was run by the USDA this fall in Tennessee for the possible presence of the pest. Gin trash, where the worm is most readily found, was examined in all the major cotton counties by USDA scouts for this purpose.

No pink bollworms were found to be present in Tennessee. The nearest known infestation is in southwestern Arkansas. It is not known if the insect will get into this state or if the insect can even survive under Tennessee conditions. Continued surveys for this pest are planned.—R. P. Mullett.

Florida Reports Many Insect Pests

GAINESVILLE, FLA. — Rhodes grass scale (Antonina graminis Mask.) averaging 1 nymph and adult per square yard was found infesting St. Augustine grass 2 miles west of Davie on a ditch bank; 2 adults per plant on St. Augustine grass 1 mile south, causing no apparent damage; nymphs and adults averaging 3 per sq. yd. on Bermuda grass 5 miles south with no apparent damage; and 3 adults per plant on Para grass 2 miles southwest.

Lesser cornstalk borer (Elasmopalpus lignoscellus Zell.) in the larval stage averaging 4 to 6 per peanut was found on J. D. Hood's farm, Santa Rosa County. Fall armyworm (Laphygma frugiperda (A. & S.)) averaging 1 to 2 larvae per sq. yd. was found infesting St. Augustine grass 6½ miles northwest of Davie.

Green bug (Toxoptera graminum (Rond)) causing a medium infestation of nymphs and adults on Pangola grass at the Imperial Ranch; and 2 to 3 nymphs and adults per plant on Pangola grass 2 miles east of Davie. No apparent damage was indicated.

Grasshopper (Conocephalus sp.) averaging 5 nymphs sq. yd. was found infesting Para grass 7 miles northwest of Davie. No apparent damage was indicated; Conocephalus sp., averaging 1 to 2 nymphs a sq. yd. of Carib grass 2 miles east; and Dichromorpha sp., averaging approximately 1 nymph a sq. yd. infesting bitter blue St. Augustine grass 2 miles east averaging 1 nymph per sq. yd., 2 miles east of Davie. No apparent damage was indicated.

Leafhopper (Deltocephalus sonoru Ball) in the nymphal and adul stages averaged approximately 2 sweep. Eggs were found in a dis sected female. Carneocephala sagitti fera (Uhler) averaged approximatel 1 adult per 2 sweeps; Exitianus ex itiosus (Uhler) averaged approxi mately 1 adult per 4 sweeps; an Deltocephalus flavicosta (Stal) av eraged approximately 1 adult per 2 sweeps on a lawn consisting mainl of Bermuda grass (Cynodon dactylo (L.)) in northeast Gainesville.—H. A Denmark.

Damage to sweet corn has bee caused by the lesser cornstalk bore in the coastal section of Palm Beac county this season, according to re ports by assistant County Agen John H. Causey. Several grower plowed up plantings that were heav ily damaged by the pest.

The yellow sugar cane aphid has severely damaged Pangola grass pastures in the Belle Glade section during the past few weeks, it has been reported by H. L. Speer, assistant Palm Beach county agent.

Clover Leaf Aphid In California

RIVERSIDE, CAL.—An infestatio of yellow clover leaf aphid has bee reported damaging alfalfa fields i southern California where losses hav been estimated at around $250,00 More than $20,000 has been spent i efforts to control the pest thus fa

According to R. M. Howie, county agricultural commissioner, next year's losses to the insect may be larger. The aphid has spread swiftly and has proved difficult to control.

Nearly all of the 250,000 acres alfalfa in Palo Verde Valley are sa

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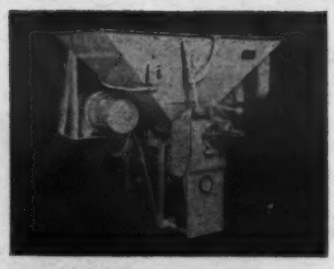

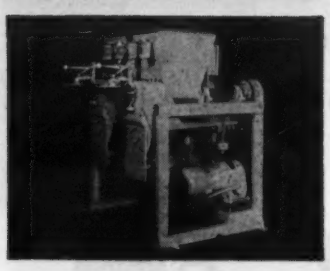

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be infested. The pest has also been nd in Perris and Hemet Valleys ere its population is expected to and. Damage has also been re-rted in Coachella Valley. The pest s first located in Yuma, Ariz.

ane Borers Reported

CONCORD, N.H. — Red necked e borers have been reported in w Hampshire breaking off rasp-rry canes 12 to 18 in. above the und. Entomologists reported the rers cause irregular swellings or lls, 1 to 3 in. in length along the ms. Canes are weakened so that y break off about these galls.

nts Invade Houses

CAMBRIDGE, MASS.—A wave of nged ants has invaded houses re, according to reports made to tomologists of the Massachusetts tension Service. Complaints from sidents were made to the service which the complainants enclosed gs that were found in their base-nts. Ellsworth Wheeler, entomolo-t for the Extension Service, identi-d them as winged ants.

MORE CORN BORERS

AMES, IOWA—A bigger than nor-al population of corn borers is ading into the winter—with a etty fair chance for survival. That's e report of a survey taken annually Iowa State College and the State partment of Agriculture.

irgil O. McCullum in ew U.S. Potash Post

CARLSBAD, N.M.—The U.S. Pot-h Co. recently promoted Virgil O. cCollum to the position of indus-al relations director, succeeding L. llister Jones who is retiring.

Mr. McCollum joined the company 1932 and started working in the inery. He served in World War II the Philippines, where he attained rank of lieutenant colonel. He s captured by the Japanese in the l of Bataan and was held a pris-r for three years.

Upon his return, he resumed work h the potash company in the in-trial relations department. Mr. Collum is prominent in New Mex-civic and governmental affairs, l is now serving his fourth term the state house of representatives.

anges Made in innesota Soil Testing

ST. PAUL—Two changes in the iversity of Minnesota's soil testing vice were announced recently by J. Sloan, director of the Agricul-al Experiment Station.

First, enlarged facilities will per-more complete and accurate soil ts. Second, the fee will be $1 per mple. The fee has been 50¢ per mple.

William P. Martin, head of the ls department, says new labora-y equipment has been purchased l new, improved tests for lime, osphate and potash added. A chem-John Grava, has been employed supervise the soil testing labora-y. In the past, the laboratory has made a soil test for nitrogen. Grava will tackle this problem, amining nitrogen tests other states , and adapt one for Minnesota in near future.

Recently a series of courses were nducted for county agents by Prof. ul Burson of the University's soils partment. The courses were de-ned to equip them to make final rtilizer and land use recommenda-ns to farmers who have sent soil mples to the laboratory.

CORN CHAMPION

COLUMBIA, MO. — Jerry Main, ckitin, Mo., is the winner of the annual Missouri Farmers Assn. n yield contest. His average yield 114.02 bu. an acre.

Advisory Group Urges Study of Farm Adjustments

WASHINGTON — The Production Economics Research Advisory Committee has urged a much greater expansion of economic research concerned with production adjustments on farms faced with reduced market outlets. Committee members said there is need for studies in all of the "type-of-farming" areas where wheat, cotton or butterfat is a major product.

Established under authority of the Research and Marketing Act of 1946, the committee meets annually. It met recently in Washington.

The committee also recommended research to furnish an objective basis for guiding the development of cost-sharing and other public assistance programs for conservation and for showing just how far these programs can and should go in bringing about desirable land use adjustments.

Among other principal recommendations of the committee were (1) study of the changes farmers make in the products they produce and substitutions they make in response to cost-price changes; (2) expansion of research on the use of new machines and techniques for handling, curing, drying and storing farm products on the farm; (3) expansion of work on the economics of fertilizer use; (4) research on the profitable use of feed and forage by livestock and analysis of the economic limits of substituting one feed for another; (5) study of the problem of disrupted local farm labor forces resulting from advances in farm technology and production adjustment; (6) study existing tax laws and assessment procedures and determine whether there may be superior alternative sources of revenue; (7) make additional studies of the risks of farming.

Horticulturist Named At Maryland

COLLEGE PARK, MD.—Dr. Benjamin L. Rogers has been appointed extension assistant horticulturist at the University of Maryland Fruit Experimental Laboratory at Hancock, Dr. James M. Gwin, director of extension has announced. Dr. Rogers succeeds C. O. Dunbar, who died in May.

From 1950 to the present he has been with the United States Department of Agriculture at its Wenatchee, Wash., fruit laboratory.

PAYS TO SIDEDRESS

ST. PAUL—In nitrogen sidedressing demonstrations on corn conducted in 1953 by the University of Minnesota, return over fertilizer costs for the 40 lb. an acre rate was $6.12 on coarse textured soils and $3.36 on fine textured soils for each dollar spent.

9 out of 10 growers who treat for soil insects use aldrin

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Niagara Chemical Promotes Two in Traffic Department

MIDDLEPORT, N.Y.—J. V. Vernon, president of Niagara Chemical Division of Food Machinery and Chemical Corp., recently announced the following changes in the Niagara Division Traffic Department, which were effective Jan. 1.

J. J. Lynch, formerly traffic manager, became director of traffic, and G. W. Bennett, formerly assistant, became traffic manager.

Mr. Lynch will have in his new position, wider responsibilities concerned with the traffic problems of all Niagara Branch Plants located throughout the U.S.

He has been chairman for the past two years of the Traffic Committee of the National Agricultural Chemical Assn., and is active in various organizations, including the Buffalo Transportation Club, Niagara Frontier Traffic Club and the National Industrial Traffic League.

Mr. Bennett will be in charge of all traffic problems pertaining to the Middleport, N.Y. plant, which is Niagara Division headquarters. Mr. Bennett has been with the Niagara Division for the past seven years.

Committee Named

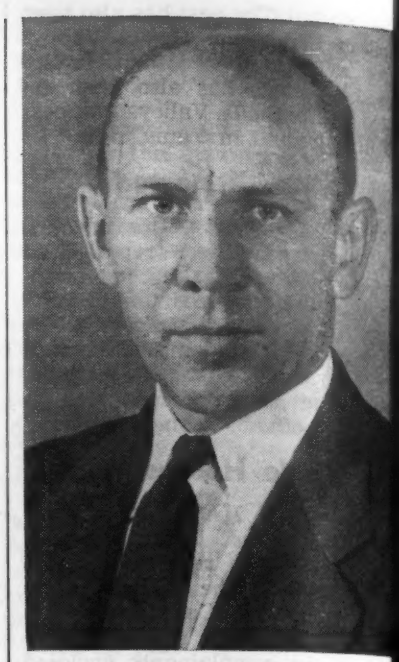
WASHINGTON — Appointment of 5-man committee to advise with officials of the U.S. Department of Agriculture's Federal Crop Insurance Corp. was announced recently by Ezra Taft Benson, secretary of agriculture. The members are Milton W. Mays, America Fore Group, Rye, N.Y.; Thomas F. Malone, Massachusetts Institute of Technology, Cambridge; Charles W. Tye, Joseph Frogatt Co., Inc., New York City; Robert R. Coker, Coker's Pedigreed Seed Co., Hartsville, S.C., and John Scott, Gilby, N.D. farmer and president of the First State Bank, Gilby.

N. Y. Chemists Hear Talk on Radiation

NEW YORK—The effects of various types of radiation on insect life and microorganisms were discussed by Dr. Ernest E. Lockhart of the Massachusetts Institute of Technology at a recent meeting of the New York Section of the American Association of Cereal Chemists.

He explained M.I.T. research work on "Food Processing by Radiation." The program included a careful evaluation of the characteristics of a food product before and after irradiation.

An application which is economically feasible, according to Dr. Lockhart, is the killing of insects in grain. The dose required for complete destruction of insects in all states of development was only about 10% of that required for destruction of microorganisms, he said.



Leland G. Butler

Leland G. Butler Named to Technical Post by Standard

HOBOKEN, N.J.—Dr. Leland Butler has been appointed direct of technical service and developme eastern U.S., for Standard Agric tural Chemicals, Inc., Hoboken, N A Rutgers University Ph.D. in agro omy and a weed control specialis Dr. Butler has spent a year in Ven zuela experimenting with chemic weed control on food crops as a f low of the Research Institute of t International Basic Economy Corp ration.

Dr. Butler, who will headquart in Hoboken, will be responsible f directing Standard's technical serv and development of Sinox, a dinit chemical weed killer, and Elget the product for dormant spray bl som thinning.

Hearing on Fertilizer Sampling Scheduled

SACRAMENTO — The State D partment of Agriculture announc a public hearing will be held Jan. in Sacramento to consider propos changes in the department's meth of taking fertilizer samples. T hearing is scheduled for the Ag culture Bldg., 1220 N Street, beg ning at 10 a.m.

Heretofore official samples of f tilizing materials have been divid into two portions by the inspector the time of sampling. One porti has been left with the person charge of the sampled material. A lytical investigations by the depa ment indicate that such division the sample under field conditi might introduce slight errors in case of heterogenous materials di cult to mix thoroughly and uniform

The department proposes to se the entire sample, secured by inser ing a hollow trigger diagonally in a specified number of bags, to t official testing laboratory at Sacr mento, where the material may ground, mixed and subdivided mo accurately than field conditions pe mit.

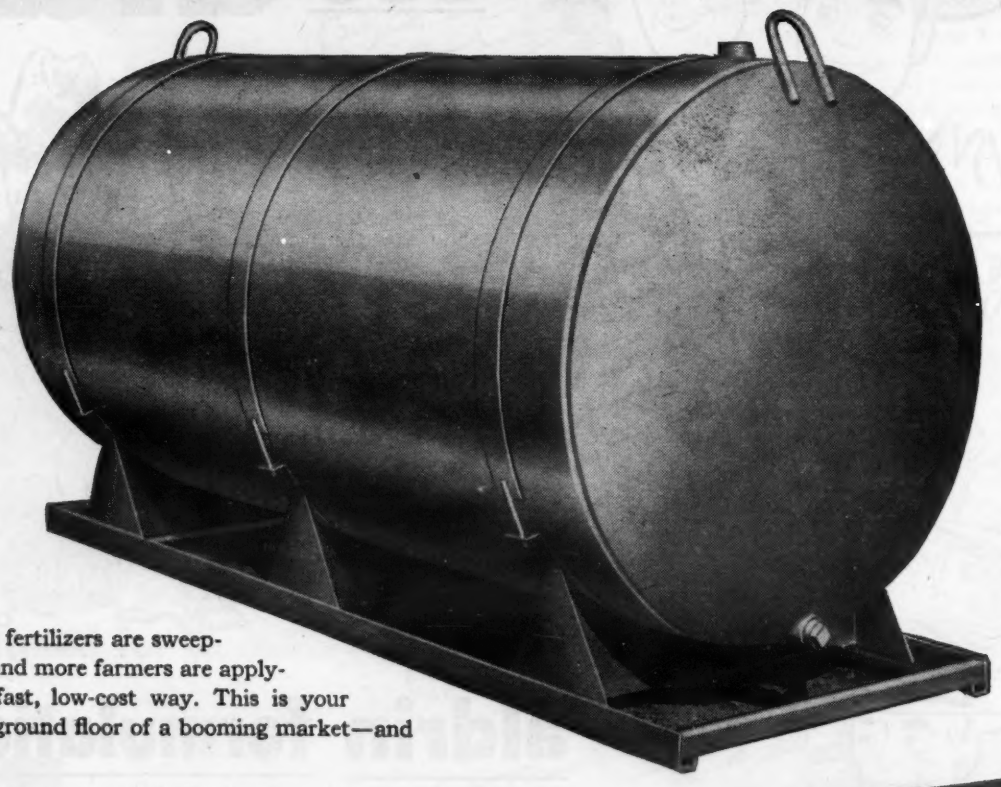
The fertilizer industry has in cated its general agreement with proposed amendment of regulati governing sampling.

Joins Pennsalt

PHILADELPHIA — Joseph H son, Haddenveld, N.J., has b named field sales representative the B-K department of the Penn vania Salt Manufacturing Co., C Brooker, sales manager, has nounced. Mr. Hickson has been signed to the New York Metrop tan territory where he will di the distribution of Pennsalt's line of sanitizing chemicals for dairy and food industries.

NOW! Cash in on liquid nitrogen solution boom

with new BUTLER aluminum TANKS



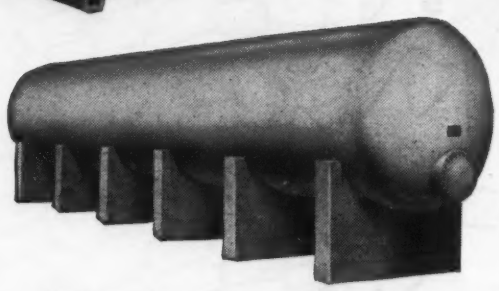
Welded low-pressure skid tank for on-farm storage. Available in 500, 830 and 1000-gallon capacities. Others (without skids) from 100 to 1000 gallons.

Liquid nitrogen solution fertilizers are sweeping the country! More and more farmers are applying nitrogen this new, fast, low-cost way. This is your chance to get in on the ground floor of a booming market—and profit as demand soars!

Butler now offers two types of special alloy non-corrosive aluminum bulk storage tanks for nitrogen solutions: (1) Bolted vertical 22,000-gallon tanks for non-pressure solutions; (2) Welded horizontal 12,000 and 22,000-gallon bulk storage tanks for low-pressure solutions.

Smaller size horizontal aluminum tanks in 100, 270, 500, 830 and 1000-gallon capacities are also available. The 500, 830 and 1000-gallon tanks can be factory-equipped with skids for on-farm storage or transporting solutions from bulk station to farm.

Act now and cash in! Send coupon today for full information.



Welded low-pressure tank for bulk storage. Available in 12,000 and 22,000-gallon capacities.

Bolted 22,000-gallon non-pressure tank for bulk storage.

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Edwin H. Ginn Heads New Hercules Powder Advertising Division

WILMINGTON, DEL. — The creation of a new division of the Hercules Powder Co. Advertising Department — the Agricultural Advertising Division—has been announced by Montgomery R. Budd, director of the department.

Edwin H. Ginn will be manager of the new division.

Mr. Budd also announced the appointment of John K. Speicher to be manager of technical publications for the firm's Advertising Department.

"The rapid growth of Hercules in the agricultural chemicals field in recent years, and marked during the past year by our acquisition of another anhydrous ammonia plant and the completion of our agricultural chemicals laboratory, places new emphasis upon this phase of our work," Mr. Budd said.

Mr. Ginn joined Hercules Powder Co.'s Advertising Department in 1950. Previously he had served in the public relations departments of Boston University and the American Optical Co. For the past three years, he has specialized in advertising problems involving Hercules toxaphene insecticides and other chemical products used in agriculture.

Mr. Speicher has been responsible for technical service problems in Hercules' Cellulose Products Department since 1929, and in 1952 was named assistant manager of development for that department.

Joining Hercules in 1918 as a chemist, he spent six years with the Explosives Department before being transferred to the Hercules Experiment Station in 1925 as chemist in charge of cellulose products research. In his new post he succeeds Oscar A. Pickett, retired.

Ohio-Indiana Agricultural Aviation Conference Scheduled

LAFAYETTE, IND. — The fourth annual Ohio - Indiana Agricultural Aviation Conference will be held in the Union Bldg. at Purdue University, Lafayette, Ind., February 23-25. Registration is scheduled in the Purdue Memorial Union Bldg., Wednesday morning, February 23, and the first session will be held in the Union's West Faculty Lounge at 1 p.m. Feb. 23.

Four program sessions are scheduled for Wednesday and Thursday, as follows: general, entomology, agronomy and mechanical. The annual banquet will be held Thursday night. Friday demonstrations of equipment are scheduled at the Purdue University Airport.

An exhibit room will be available for insecticides and small equipment and larger equipment will be exhibited at the airport. Persons wishing space, for which there is no charge, or those planning to have larger equipment for exhibit or demonstration at the airport should write J. J. Davis, Department of Entomology, Purdue University, Lafayette, Ind.

Hotel facilities will be available at the Union Club, Purdue Memorial Union, West Lafayette, Ind., or at the Fowler and Lahr Hotels in Lafayette.

SC Appointments

WASHINGTON — Ezra Taft Benson, secretary of agriculture, has announced the appointment of Henry J. Robbins of Putnam as a member of the Connecticut State Agricultural Stabilization and Conservation Committee. At the same time he appointed Harold L. Strickland, Rockville, committee member since Jan. 1, 1953, chairman of the committee, succeeding William S. Wadsworth, Farmington, resigned.

500 Expected at Illinois Spray School

URBANA, ILL.—The annual Custom Spray Operators School at the University of Illinois will be held Jan. 20-21.

Sponsored by the University and the Illinois Natural History Survey, the school is expected to attract more than 500 custom spray operators, insecticide and equipment manufacturers, dealers and teachers.

The school opens at 10:00 a.m. Jan. 20 and ends at noon Jan. 21. It will include scientists' recommendations on insect and weed control measures for 1955, a progress report on spraying liquid fertilizers and reports from spray operators and commercial research company representatives.

Stauffer Plant

NEW YORK — Stauffer Chemical Co. has just completed a new $800,000 plant for the manufacture of Crystex at Monongahela, Pa. Completion of the plant brings the number of Stauffer sulphur plants to eight. Other locations are at Chauncey, N.Y., Bayonne, N.J., Freeport, Texas, Harvey, La., St. Louis, Mo., Berkeley, Cal. and Richmond, Cal.

CHASE PARTY — The above picture was taken recently at the annual Quarter Century Club party of Chase Bag Co. employees, held in Minneapolis. From left to right are John R. Hale, manager of the Chase office in Minneapolis; Robert N. Conners, Chicago, executive vice president of Chase, who presented bonds to three Chase employees who retired Jan. 1; Kate Erpelding, who retired after 50 years with the firm; Gus Martin, who retired after 42 years of service, and George Beauchamp, who retired after 44 years with Chase.

1955 will be the biggest year yet for NITROGEN!

Order enough USS Ammonium Sulphate now for big early spring demand

• During 1954, sales of 1-1-1 ratio fertilizers (such as 10-10-10) showed a marked increase—more than any other mixture percentage wise. This is evidence of the fact that the big "push" for nitrogen by agronomists, agricultural colleges, farm publications and others is taking effect. And, there's every indication that the trend will be even stronger this year as more farmers find out just how important nitrogen really is to their farm profits.

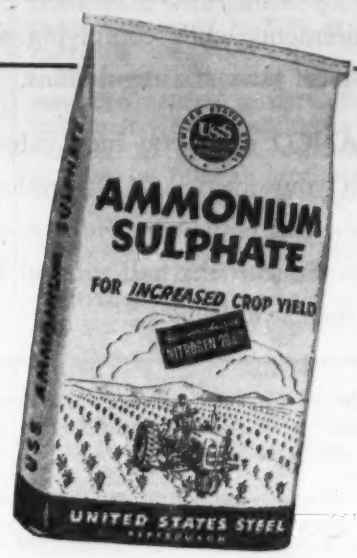
Many states are now engaged in state-wide pasture-improving programs that are bound to boost the sale of high-nitrogen fertilizers, since nitrogen is the most important element in any effective grass pasture program.

Farmers are learning too that *earlier* application in the spring means earlier grass growth and a longer, more productive grazing season. That means that your dealers should be stocked very soon.

Non-leaching USS Ammonium Sulphate is best for early spring

Nitrogen for early spring application—as well as for fall and winter—should be in the non-leaching Ammonia form for best results—and repeat orders. You are safest when you use USS Ammonium Sulphate nitrogen . . . both for direct application and in your complete fertilizers.

USS Ammonium Sulphate is always free-flowing . . . it won't cake and clog farmers' distributing equipment. And it is less corrosive than similar materials. USS Ammonium Sulphate comes in strong, moistureproof bags that keep it dry and easy to use. It will not set up in storage. Order right away and be set for your full share of this year's big *early* spring demand.



USS AMMONIUM SULPHATE

5-74

UNITED STATES STEEL

NORTHEAST WEED CONFERENCE

(Continued from page 1)

(See page 1 of the Dec. 20 issue of Croplife.)

He indicated the specific areas needing more attention at the present time as including the role environment plays in relation to herbicidal action, mode of action of herbicides and life-cycle studies on plants classified as weeds.

Mr. Parker called for the elimination of unnecessary duplication in the publication of weed research papers with no reference intended to preparation of information leaflets valuable to the public.

Proper evaluation of preliminary reports was stressed. All too frequently, he said, proper evaluation is not given to the word "preliminary."

Mr. Parker also outlined the research activities of the USDA Section of Weed Investigation, and he expressed a hope that the existing program can be strengthened and efforts expanded into the areas inadequately covered at the present time.

Mr. Parker's remarks on areas inadequately covered were further elaborated on by a panel led by John Van Geluwe, G.L.F. Soil Building Service, Ithaca, N.Y.

Participants were Gilbert Ahlgren, Rutgers University, New Brunswick, N.J.; Robert Sweet, Cornell University, Ithaca, N.Y.; Robert H. Beatty, American Chemical Paint Co., Ambler, Pa.; John Gould, New York State Conservation Department, Poughkeepsie; R. C. Sweeny, New York State Health Department, White Plains and L. E. Cowart, E. I. duPont de Nemours & Co., Wilmington, Del.

Recommendations included better farmer education, improved effectiveness of present chemicals for control of woody plants, more concentration on weed control in horticultural crops and developments of new chemicals.

Foresters, it was pointed out, would appreciate a less costly method than basal treatments.

More study was seen needed in tillage, row spacing and fertilizing practices in the field of agronomy, and the breeding of more vigorous crop varieties was suggested.

It was estimated that 1.7 million people living in the area north of the Potomac River and east of the Ohio River suffer annually from allergies involving air borne pollen. The role herbicides can play in alleviating much of this trouble was shown.

Speaking before a group at the extension session Dr. C. J. Willard, Ohio State University, retiring president of the American Society of Agronomy, said that the most important single aspect of advances in weed control is greater ability to control woody plants. He said that before the appearance of the translocated herbicides, the only methods of checking the encroachment of trees and brush on agricultural and pasture land were expensive and ineffective.

Dr. Willard gave examples of weed controls other than by use of chemicals and declared "weed control is not and will not be purely chemical."

Discussing future prospects he declared, "It is almost unthinkable that we shall find for any crop, an herbicide which will kill all the weeds which might be growing in it and not even injure the crop."

He called attention to the cotton and corn belt situation where weed grasses and many serious broadleaved weeds not killed by 2, 4-D are increasing in importance, while common broadleaved weeds, which are susceptible, are diminishing.

He stated it was only a matter of time when it will not pay to use 2, 4-D in many corn fields as we are using it today.

"The manufacturer who develops a quick-acting soil sterilant, which disappears in a short time, will reap a fortune," he said. "It must kill seeds, plants and roots in the soil, and it must be offered at a cost compatible with field use. Calcium cyanamide has made a promising start in this direction on soils where the nitrogen carried is later needed as fertilizer for the crop."

In concluding his remarks Dr. Willard said, "Weed control has a tremendous load of fundamental unfinished business to complete."

The Jan. 5 afternoon general session began with an address by J. W. Noone, National Agricultural Chemicals Assn., Washington, on problems in registration of new herbicides.

Mr. Noone detailed the procedure for registration of new herbicides in accordance with the pesticide act and listed types of data normally required on a new herbicidal chemical intended for use on a food crop.

He said the cost of obtaining all the outlined data, which constitutes a prerequisite for registration, poses a financial problem. Surveys among manufacturers indicated average cost of developing and marketing a successful pesticide chemical amounts to about $1.5 million.

Mr. Noone cautioned both manufacturers and federal and state agricultural authorities against recommending a pesticide chemical which may leave a residue for use on a food crop where there is no tolerance or exemption in effect for that use. He also warned against recommending use of a pesticide in such a manner that a residue in excess of tolerance will result.

"If a grower follows recommendations or directions for use which result in an illegal residue and his crop is seized, he undoubtedly will seek to recover the value of his crop from the person and/or organization who made such recommendations or gave such directions for use," he said. "Without attempting to discuss all the legal points involved, it can be said that the responsible person or organization may be held liable to the grower."

Mr. Noone concluded his talk by saying, "By recognizing what is needed and why, and planning our research programs accordingly, we will make more progress faster in the development and use of herbicides."

Promising chemicals tested as new herbicides in the northeastern region in 1954 were discussed by R. J. Aldrich, Field Crops Research Branch, U.S. Department of Agriculture.

Note was made that the list was not necessarily complete since data from all workers in the region were not obtained and assembled.

The chemicals and the areas promise were 2 2-dichloropropionic acid (sodium salt) in pasture renovation, control of perennial grasses including quackgrass, Johnson grass and phragmites communis and control of bedstraw in birdsfoot trefoil 3 - amino - 1, 2, 4 - triazole in pasture renovation, perennial weed control and control of redroot in cranberries

(Continued on page 17)

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ANHYDROUS AMMONIA INDUSTRY

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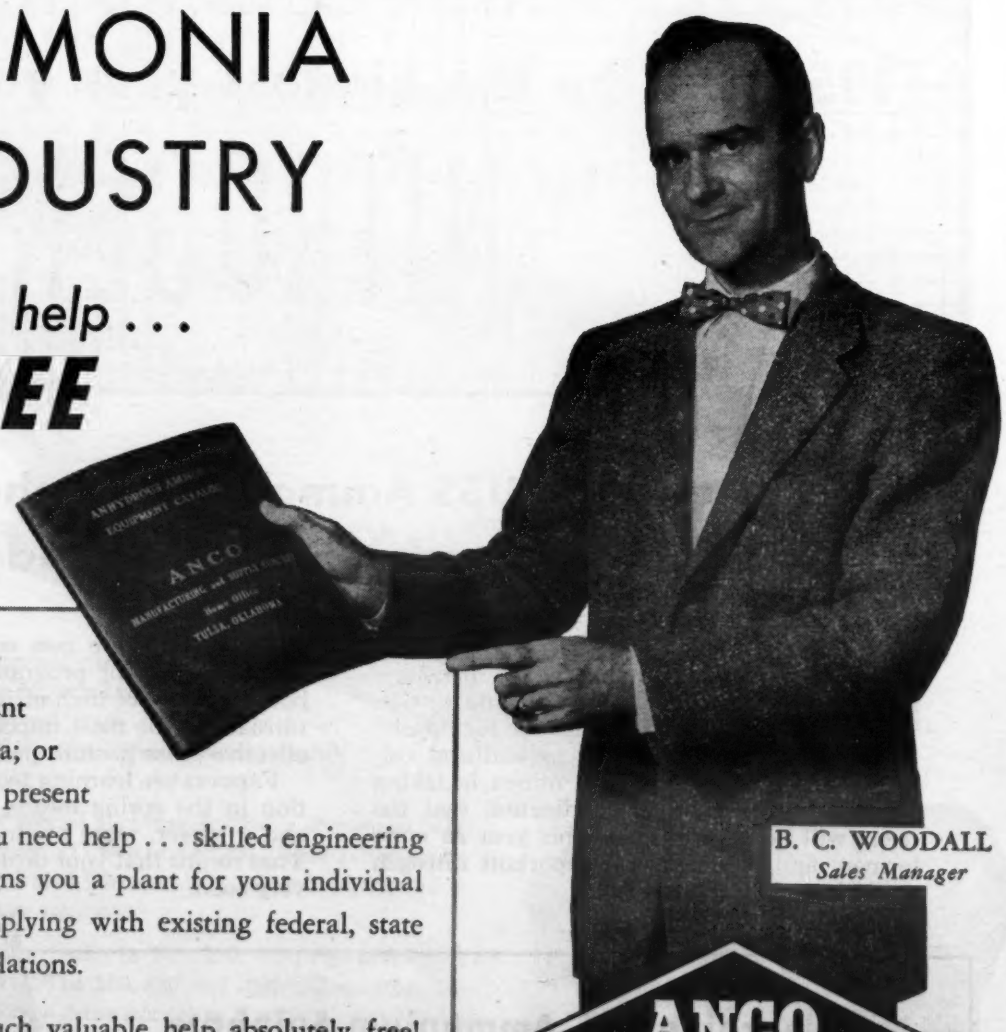

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Sales Manager

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ANCO gives you such valuable help absolutely free! From your idea, ANCO develops actual blueprints . . . supplies all equipment from storage tanks to safety equipment. So start the ball rolling! Fill out the coupon below and mail it today!

Mr. B. C. Woodall, Sales Manager
Anco Manufacturing and Supply Co.
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Please send me your Bulk Plant Questionnaire for NH_3 Bulk Plants. Even though you help me develop my ideas for a plant, I understand that I am under no obligation to you.

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EDITOR'S NOTE

The accompanying article is adapted from "Fertilizer Use and Crop Yields," a report published last month by the U.S. Department of Agriculture. The publication is a result of studies of the Fertilizer Work Group, National Soil and Fertilizer Research Committee, in cooperation with the Soil and Water Conservation Research Branch and the Production Economics Research Branch and Agricultural Research Service, USDA. This article, on the North Central states, was prepared for the report by K. C. Berger, professor of soils, College of Agriculture and the Agricultural Experiment Station, University of Wisconsin. Mr. Berger was Work Group representative for the North Central states. The Work Group was appointed in March, 1951, and the figures in this report are based on 1950 and 1951 data. Nevertheless, they should prove valuable as a guide to the potential fertilizer market in the years ahead. An article from this report, on opportunities for more efficient fertilizer use in the Northeast states, appeared in the Dec. 27 issue of Croplife, and an article on Southern states appeared in the Jan. 3 issue.

Garden Store Reports Lively Chemical Sales

Bachman's, a floral and nursery organization at Richfield, a suburb of Minneapolis, has a large highway garden store, managed by Ralph Bachman which sells a great deal of fertilizer and farm chemicals. Farmers and suburban residents are customers.

The garden store is constructed from a former garage building. It is painted white and signs outside inform customers that seeds, fertilizers, garden tools and insecticides can be purchased here.

The Bachman staff reports that both farmers and suburbanites spent considerable sums last year on seeds, fertilizers and farm chemicals. The store merchandises a considerable amount of weed spray and insecticides. It also has many hand sprayers for sale, and also handles power lawn mowers, picket fence and other related items.

A large drive-in space from the highway makes it easy for customers to swing off busy Highway 65 and drop in and get fertilizers and other supplies. The firm's nursery is located nearby, and that division funnels off many fertilizer customers for additional sales.

DROUTH EFFECTS

COLUMBIA, MO. — According to Marcus Zuber, agronomist for the U.S. Department of Agriculture cooperating with the College of Agriculture at the University of Missouri, two of the most important reasons for low corn yields in a drouth year such as 1954 are the lack of silk production and poor timing between tasseling and silking.

MORE LIME NEEDED

URBANA, ILL.—Illinois farmers have used 4 to 5 million tons of limestone each year for the past several years, but there are still more than 10 million acres of crop and pasture land in the state that need limestone, according to the College of Agriculture, University of Illinois.

Opportunities for More Efficient Fertilizer Use in Midwest States

The North Central states contain some 225 million acres of cropland and probably have the greatest potential for increased fertilizer consumption of any region in the U.S.

These states produced 75% of the corn, slightly more than 54% of the wheat, 68% of the rye, 81% of the oats, 90% of the soybeans, and 47% of the hay in the nation during 1950. Production of this magnitude exerts a heavy drain upon the nutrient supply in the soil.

Fertilizers have become an increasingly important factor in crop production in the North Central states during recent years. Consumption in 1941-50 has increased nearly threefold, with a total annual usage in 1951 of more than 4½ million tons. Undoubtedly, the consumption of fertilizers will continue to expand as crop production demands increase and as the native supplies of plant nutrients dwindle.

Considerable variation exists in the pattern of fertilizer nutrient consumption from one part of the region to another. Greatest consumption is in Ohio, Indiana and Illinois (table 1). These three states used approximately 57% of all fertilizer nutrients consumed in the region in 1950.

During the same year Michigan, Wisconsin and Missouri each consumed about 8%, while Iowa and Minnesota each consumed between 5 and 6%. Consumption in the four Plains states was considerably less.

Although nitrogen consumption roughly parallels total fertilizer use, nevertheless considerable variation exists between states. With the exception of North Dakota, which uses relatively more phosphate than nitrogen, the states in the western part of the region use a higher percentage of nitrogen in their fertilizer programs than do those to the east.

Nebraska, for example, consumes considerably more nitrogen than either phosphate or potash. Kansas, South Dakota, Missouri and Iowa also use a relatively high proportion of nitrogen.

Phosphate is used universally over the region, with the highest consumption in Ohio, Indiana and Illinois. Except in Wisconsin and Nebraska, phosphate constitutes 50% or more of the total fertilizer nutrients applied.

Potash, on the other hand, presents a different picture. North Dakota, South Dakota and Nebraska use practically none, and Kansas uses very little. Iowa and Illinois, also comparatively light potash consumers, applied only about 18% of the total nutrients in 1950 as potash. Wisconsin used more potash than phosphate. The other states are intermediate with potash consumption ranging from 27 to 37% of the total nutrients consumed.

These variations in nutrient consumption reflect, in part, differences in climate, soils and types of agriculture. In general, soils developed in areas of highest precipitation are more acid and leached and lower in available plant nutrients.

On the other hand, those in the semiarid portions of the Plains states are frequently calcareous, often alkaline in reaction, and contain an abundance of potassium.

Moisture is frequently a major limiting factor in plant growth. Although periods of drouth may occur throughout the region, lack of moisture is common in the central and western parts of the four Plains states and greatly influences crop response to fertilizers.

As a general rule, going from north to south in the region is accompanied by a decrease in the organic matter content of the soils, except for variations brought about

(Continued on page 13)

Table 1—Estimates of quantities of commercial plant nutrients used in the North Central States in 1950 and those needed for level of production attainable in 1955.

State	1950 N	1950 P_2O_5	1950 K_2O	1955 attainable[1] N	1955 attainable[1] P_2O_5	1955 attainable[1] K_2O
	tons	tons	tons	tons	tons	tons
Ohio	28,860	117,512	81,520	46,585	144,409	100,115
Indiana	34,491	130,464	97,291	141,002	227,462	200,218
Illinois	15,804	201,055	48,688	46,340	283,760	95,086
Michigan	9,548	62,738	39,360	16,436	92,171	69,679
Wisconsin	12,671	49,601	51,243	45,162	105,702	116,250
Minnesota	6,465	41,542	20,992	12,010	63,950	31,975
Iowa	13,616	48,336	12,736	70,069	103,105	34,943
Missouri	21,865	52 641	28,047	90,000	130,000	70,000
North Dakota	884	6,037	40	4,179	17,575	150
South Dakota	501	1,347	40	7,134	10,768	0
Nebraska	12,450	1,495	0	67,960	16,580	0
Kansas	16,861	34,464	3,195	50,070	55,070	5,925
Total	174,016	747,232	383,152	596,947	1,250,552	724,341

[1]Estimates of quantities of commercial plant nutrients used in 1950 and of those needed for level and pattern of production attainable in 1955. U.S. Department of Agriculture, Jan. 31, 1952. (Processed.)

Table 2—Planted acreage and average use of N, P_2O_5, and K_2O for major crops in the North Central States during 1950.

Crops—	Total acreage	Nutrients— N	P_2O_5	K_2O
	1,000 acres	lb./acre	lb./acre	lb./acre
Corn	52,734	3	8	6
Sorghum	3,190	.5	.6	2
Wheat	40,132	2	7	6
Rye	904	1	8	4
Barley	6,407	.5	2	1
Oats	28,957	1	8	4
Soybeans	10,134	.4	3	3
Cotton	445	13	13	18
Tobacco	30	43	118	111
Sugar beets	351	8	37	26
Flaxseed	2,008	.5	3	2
Potatoes	565	9	37	40
Vegetables	956	12	42	34
Fruits	798	18	19	18
Hay	31,225	.5	7	2
Pasture and cover crops	50,248	.2	7	2

Table 3—Production potential of some major fertilizer-using crops in the North Central States and yields in 1950.

Crop and unit	Yield in 1950— Average units/acre	Yield in 1950— Total for region 1,000 units	Potential yield with full fertilization Average units/acre	Potential yield with full fertilization Total for region 1,000 units	Increase obtainable with full fertilization 1,000 units
Corn grain, bu.	44	2,095,653	67	3,175,232	1,079,579
Sorgh. grain, bu.	24	42,568	32	56,757	14,189
Wheat, bu.	16	600,887	29	1,073,013	472,126
Rye, bu.	14	7,336	31	16,302	8,966
Barley, bu.	24	127,553	34	182,219	54,666
Oats, bu.	38	1,077,939	63	1,796,565	718,626
Soybeans, bu.	23	226,526	36	353,947	127,421
Cotton, lb.	298	128,000	828	356,000	228,000
Tobacco, lb.	2,457	37,460	3,413	52,028	14,568
Sugar beets, tons	11	2,958	16	4,287	1,329
Flaxseed, bu.	11	19,480	14	24,049	4,569
Potatoes, bu.	187	104,328	312	173,880	69,552
Hay, tons	1.3	53,960	3.3	138,359	84,399

Better Selling

Richer Sales Fields for Dealers

When Oscar Schoenfeld came to work that morning—he was always five minutes early—he got quite. a surprise as he stepped into the big retail salesroom. His eyes popped wide open as he saw that the customary neat island had been regrouped at one spot to make room for a wide platform which apparently was held up by saw horses. Red crepe paper had been tacked to the platform floor and hung in draped streamers at the edges.

But what bothered Oscar most was the fact that on this platform stood an array of half used packages and cans of insecticides, weed killers and other chemicals, an incongruous collection indeed which aroused a violent disgust in Oscar's neat, orderly and exact nature.

"Tillie, what in the world happened here?" he demanded, as the bookkeeper came in the door. "Who made this mess?"

The plumpish bookkeeper gasped "I—I don't know," she said. Then sighting the full display—if it could be called such—she said, "Oh, my goodness!"

"Well," snapped Oscar, "we've got to clean up this junkyard right away. I'll get a couple of the men in here."

Tillie paled. "You—you don't suppose Mr. Gillicuddy has something to do with this? Maybe we'd better wait until he comes."

"Huh," snorted Oscar. "He's foolish, I know, but certainly not that foolish. And as for waiting for him—he's never been to work on time in the morning since we've been partners. I'm always here five minutes early."

"I—I think you should phone him before you have the men carry that stuff out back," Tillie suggested fearfully. She hated scenes; in fact she had a bothersome ulcer because she was so sensitive to strife. And there was plenty of strife at the firm of Schoenfeld & McGillicuddy, as the partners, different in personality, tried to pool their talents into making a partnership profit. Which, miraculously, they always seemed to do, indicating that diverse talents sometimes pay off, in achieving a balance.

"I will call him," Oscar said, "although I'll bet a rusty paper clip he's not up yet. I know him."

He telephoned Pat's home, and wife Nora answered. "Pat's not up yet," she apologized, "but I'll call him, Oscar." And while she called her husband, Oscar hung onto the phone, his lips tight in unspoken censure, his head nodding up and down confirming his thought and his eyes conveying an expression of extreme disgust.

"I found an awful mess down here this morning," Oscar snapped when Pat came to the phone. "Who did it? I'm going to have the men throw it out on that pile of junk!"

"County of Cork!" exclaimed Pat. "Don't do that. I worked until one o'clock on that business idea, and I didn't quite finish it. I'll just grab a cup of coffee and some toast and come down. Leave everything just the way it is, Oscar."

Oscar turned to Tillie after he had hung up. "He calls it a display and he worked until one o'clock last night on it. Why doesn't he try working regular business hours like the rest of us do—when it counts? Sometimes I wish—"

He turned to his neat desk and with a sigh of temporary resignation began looking over the mail, slitting each envelope carefully, removing clips from letters and placing each read letter in a neat pile.

When Pat came to work about a half hour later, he was almost breathless. He carried a stack of cardboard placards under his arm.

"Say, am I glad you didn't throw that display out, Oscar," he said, laying down the packet of signs on his desk, and removing his grey battered hat and storm coat.

"Is that supposed to be a display?" Oscar said with distaste.

Pat McGillicuddy grinned. "Well—sure. I've had the idea for some time. You see, Oscar, there are a lot of our customers who have stored away pesticides and farm chemicals, and they represent an investment. This display is going to encourage farmers to check on their stored chemicals and make sure that they are properly cared for, so they can be used this spring and summer."

"Huh," said Oscar. "That doesn't sell any more goods for us when farm-

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ers use up their old stuff."

"It will sell farm chemicals for us," Pat said patiently. "It will make farmers think of chemicals, and they'll buy supplies of them early. I'm going to place some sprayers around one side of the platform, too. Maybe we'll sell an extra one or two right now, instead of waiting until spring."

"But that platform display," complained Oscar. "It's so ugly."

Pat laughed. "That's part of the plan to get farmers to notice it. That's the way their packages of insecticide and stored chemicals look at home. I'm not faking. Besides I prettied up the display with that red crepe paper. And these signs will explain the idea."

"What signs?"

Pat held them up one by one. "Well, they tell farmers to save money by making sure their insecticides are properly stored, and to place orders now for the chemicals they want in early spring. This sign says that weed killers will retain their effectiveness if they're kept in storage spots where the temperature doesn't go below freezing. If some of the chemicals freeze they'll crystalize. The dry powder chemicals need to be kept from all moisture, and the left over chemicals should be carefully labelled, so that a farmer doesn't try to kill weeds with DDT or corn borers with 2,4-D. They should also make sure that all barrels are tightly closed and set off the floor so that the bottoms won't rust."

"Huh," commented Oscar glumly, but Tillie seemed interested in what Pat said.

"Last, but not least," Pat said, "this special sign advises farmers to keep these chemicals away from pets and children. You see, Oscar, as I place these signs around the display — Nora lettered them for me, and she's good at it—then the display looks much better, doesn't it? It takes on meaning."

"It really does," Tillie said somewhat enthusiastically. "And it has a sales message. It's different, too."

Oscar's lips got tighter. He glowered at Tillie at this switch of allegiance, said, "Hmn," and went back to figuring discounts. "We'll see," he said, "how many sales we make from it. I'll bet—no, I predict we won't make enough to pay the telephone bill."

Store Displays Build Sales for Illinois Dealer

Excellent store display, a fine chemical literature rack and related selling help George Wagner, owner of the Antioch Milling Co., Antioch, Ill. sell more farm chemicals. He also does an excellent business on bagged fertilizer.

Mr. Wagner has been in business for 20 years. His mill burned in 1940, and when he rebuilt it, he provided a fine visual front retail store facing the main street in this thriving resort and agricultural city. Farmers who come to town to buy fertilizer and other needs can't help seeing the store and the mill and spotting the parking space, too. Often these farmers swing in and buy.

Farm chemicals get a wall shelf showing in the retail showroom. One manufacturer's display was placed near the wrap counter last spring and items sold very rapidly from it, showing the value of colorful display.

On the shelves, too, there are henhouse and dairy barn disinfectant and insecticides, as well as weed killers. The farmer, the poultryman and dairyman all have gotten into the habit of inspecting the shelves for farm chemicals they can use.

And when they ask questions about such items, Mr. Wagner and staff are ready with answers which help sell the merchandise.

Mr. Wagner also visits farmers in his area trying to sell them fertilizer, farm chemicals, seeds, feed, fencing, etc. One other employee helps with this work. A consistent program like that helps to build volume, secures new customers and aids in learning more about individual farmer's needs.

Once a year Mr. Wagner holds an Open House—usually in March. At that time there are many displays, some demonstrations, a talk or two on feeds or fertilizer, and then there are coffee and doughnuts for those attending. Many spring orders are placed at this open house.

Mr. Wagner has a sizable stock of hand sprayers and also a few telescopic sprayers, the latter selling for $8.95. He will also order larger sprayers for those farmers who want them.

There is a great deal of educational work needed to sell some farm chemicals, Mr. Wagner admits, but he says that farmers are deeply interested in the items and he believes it is a field which will build volume year after year.

Missouri Soil Testing Hits New High in 1954

COLUMBIA, MO.—Missouri farmers made good use of soil testing facilities in 1954, says O. T. Coleman, extension soils specialist at the University of Missouri. County soil testing laboratories have gained considerably in numbers since the first three were set up in 1946. There are now 96 located in as many counties.

Mr. Coleman bases his report from figures taken from the state's county extension agents' annual reports for 1954. In 1953, nearly 24,500 farmers had their soil tested, but in 1954, over 61,000 tested soil for a 150% increase.

The total number of soil tests made increased 66% from 70,000 tests in 1953 to over 116,000 in 1954. Also, the number of soil tests made in each county soil testing laboratory and the number of acres tested showed percentage increases.

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Just about every time farmers turn the pages of a farm magazine this year of 1955, they'll be turning to full page advertisements of one or more ARCADIAN® products. ARCADIAN UREA 45 — Nitrogen Solutions for Direct Application—*American* Nitrate of Soda — A-N-L® Nitrogen Fertilizer and others. Full pages and half pages that smack the reader right in the eye with outstanding advantages of these ARCADIAN Fertilizers that are as modern as tomorrow's agriculture. These selling messages will be seen by millions of farmers every month of the fertilizer season. Some 1500 local newspapers will also carry ARCADIAN advertising urging farmers to buy.

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FARM SERVICE DATA

Extension Station Reports

Trees and shrubs, especially in shelterbelts, may be benefited in many situations by fertilization, according to Dr. J. H. Schultz, head horticulturist at North Dakota Agricultural College. "When transplanting small shelterbelt-size trees and shrubs, especially bare root evergreens, fertilization with a starter solution may be helpful," he says.

"Starter solutions can be made with any highly soluble commercial fertilizers that contain largely phosphorus and nitrogen. We have had good success by dissolving 1 pound of 16-20-0 in 10 gallons of water. This solution is applied to the base of small seedlings immediately after transplanting at the rate of about one cupful per seedling."

★

Iowa farm economists say that fertilizer use would zoom if more farmers realized what big returns are possible from plant food. Those returns can average from one to three dollars for every dollar invested in fertilizer, reports A. Gordon Ball, of the Iowa State College agricultural economics staff.

That's particularly true on soils producing less than 75 bu. of corn per acre, says Mr. Ball. Here the return can run from 100 to 300% for each dollar invested, when a farmer adds the recommended quantity and ratio of fertilizer based on soil tests.

Mr. Ball says that crop response the second year due to the fertilizer's carry-over effect, may occasionally pay for the entire cost of the plant food. Chances of loss from fertilizer use are very slim in the Corn Belt, he says.

★

Minnesota research men report that fertilized pastures can produce more than twice as much beef pe acre as unfertilized pastures.

In tests at the Rosemount, Min experiment farm, the fertilized pa tures yielded 309 lb. beef per acr compared with 138 lb. on the u treated pastures. The fertilized pa tures gave 177 steer days per acr The unfertilized gave only 121.

In terms of dollars and cents, the fertilized pastures produced $37.40 more beef per acre than the untreated fields. Total beef production was worth $66.46 per acre on pastures built up by soil improvement, as against only $29.06 per acre on the unfertilized pastures.

The soil building program i creased the fertilized pastures' catt carrying capacity by 50%. Durin September of last year, there were steers per acre on the fertilized pa tures and 10 on the untreated pa tures. The University of Minneso research men report that only 5 lb. of 5-20-20 per acre were used establishing thicker growth on th fertilized pastures.

★

High crop yields can now be pr duced on poor soils in favorable yea by adding the required amounts an kinds of fertilizer, Dr. George Smith, University of Missouri agron omist, points out. "People on lo fertility soils need no longer be hel down to lower living standards; the can now enjoy the same advantage as their neighbors who possess be ter land," says Dr. Smith.

★

Orchard growers should give clos attention to the fertilizer needs their cover crops, advises Dr. N. Ellis, head of the Purdue Universit horticulture department.

In planning the fertilizer progra for orchard soils it must be remem bered that requirements of the tre and the more shallow-rooted sod c cover crops may be quite differen Failure of the cover crop to mak a favorable stand indicates that a is not well with the surface soil- this means trouble for the trees lat on. It is important, therefore, to pr vide the best possible conditions f both the trees and the cover, say Dr. Ellis.

★

January and February are a goo time to apply lime on land that h been fall-plowed for oats and that to be seeded to a legume in the fa after the oats crop is harveste Tillage operations for the oats w work the lime into the soil, and t lime will have a chance to react a neutralize the soil before the legum is seeded in the fall.

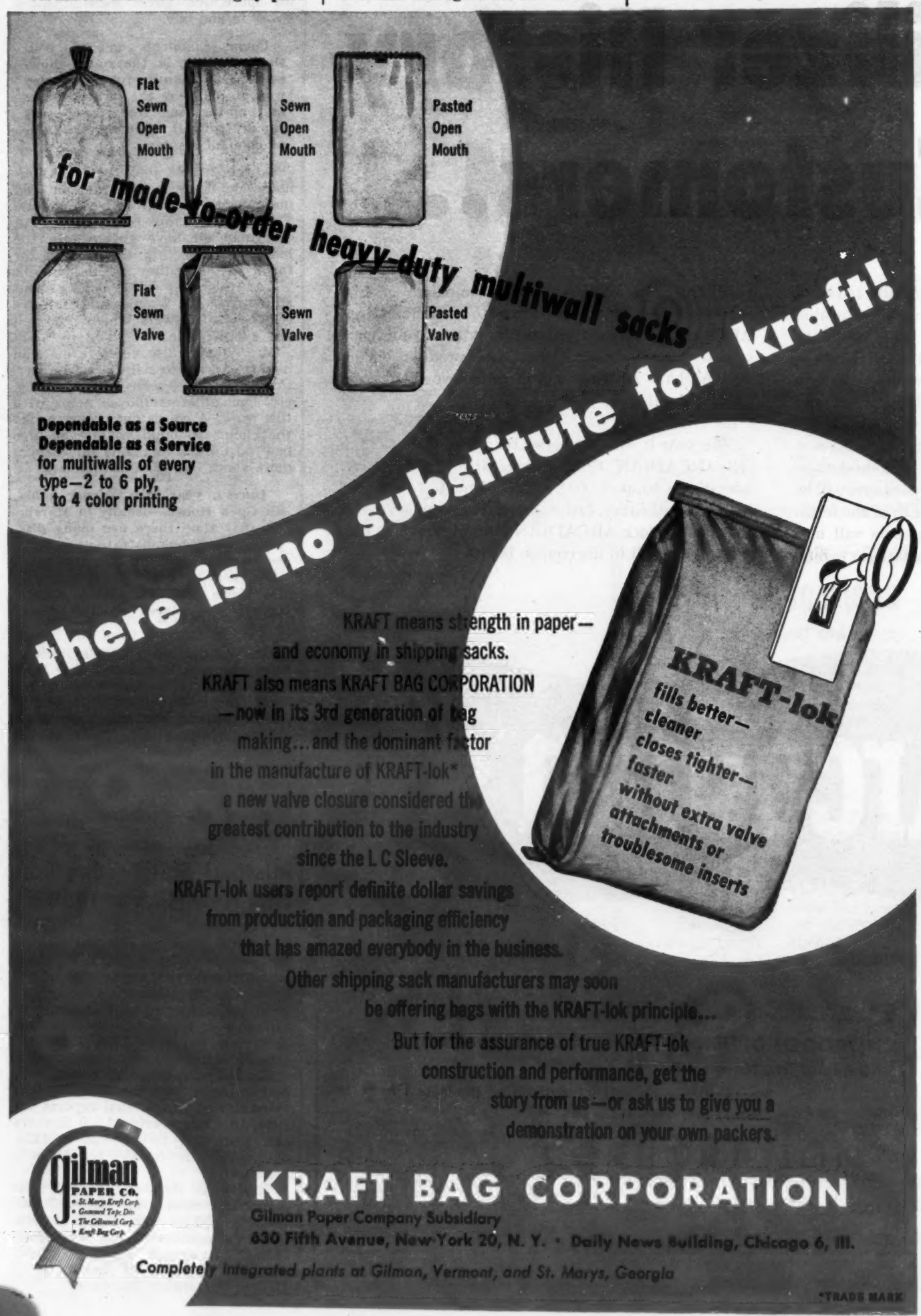
★

Fertilizers can be applied just well in the fall as in the spring, a cording to University of Minneso studies. The yield of corn, oats a hay will be equally good with eith system of application.

This was reported at the annua meeting of the American Society of Agronomy and the Soil Scienc Society of America recently. Studies were conducted by Clifton Hal sey and J. M. MacGregor, Univer sity of Minnesota soil scientists over a three-year period.

As one step, they broadcast pho phate alone, phosphate-potash a nitrogen-phosphate-potash on plow land in the fall and planted oats a corn the next spring. To compa effects they made similar treatmen of fertilizer the next spring on se eral other fields of oats and corn.

At the same time they ran simil trials, top-dressing legume and le ume-grass hay in August, Octob and April. Increases in yields on crops were about the same no ma ter when the fertilizer was appli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FERTILIZER USE

(Continued from page 9)

through differences in native vegetation. This undoubtedly has some influence on present nitrogen requirements.

The length of time the lands have been farmed and the type of farming practiced also have exerted their influence upon fertilizer needs and consumption. The states in the eastern part have been farmed longer than those elsewhere in the region, with a resultant greater depletion of native fertility.

Dairy farming, such as is practiced in Wisconsin and other northern states, results in a large loss of potash and nitrogen through improper handling of manure. The present large potassium requirements in Wisconsin probably are largely caused by this.

Cash grain farming in the semiarid portions of the Plains states also has left its imprint. The combination of low yields and less intensive farming caused by lack of moisture, along with the practice of leaving crop residues on the land, has resulted in slower depletion of nutrients than elsewhere. Only recently has the original nitrogen supply of semiarid lands become depleted to the point where nitrogen responses have been observed.

Rates of fertilizer application vary with the crop grown (table 2). The average annual application rate in 1950 for the region as a whole was only 1.5 lb. N, 6.8 lb. P_2O_5, and 3.3 lb. K_2O per acre.

Heaviest fertilized crops are tobacco, vegetables, and potatoes. Cotton, fruits, and beets, with relatively small acreages, also receive large amounts of fertilizer. Corn, wheat, rye and oats receive about the same amounts of nutrients as the regional average for all crops. Hay, pasture, soybeans, barley, sorghum and flax receive less.

About two thirds of the total consumption of nutrients is in the form of mixtures.

There are some interesting possibilities for increasing production through increased fertilizer use in the North Central states.

Increased use of nitrogen particularly would improve yields for the region as a whole. For example, increasing the nitrogen application from the 1950 average to 40 lb. per acre would result in the following increases in yield: corn, 31%; sorghum, 45; wheat, 41; rye, 47; barley, 41; oats, 43; flaxseed, 57, and potatoes, 30. Increases of lesser magnitude would be obtained with soybeans and tobacco. Bromegrass seed, fruits, and cotton would benefit greatly.

Increasing the rates of phosphate application over the average use would increase considerably yields of several crops—corn, wheat, rye, barley, oats, flaxseed, potatoes, vegetables and hay, particularly—if large amounts were applied.

Increasing the application of fertilizer nutrients on the currently high-fertilizer-using crop of tobacco would have the least effect on yields. Greater use of lime undoubtedly would increase the efficiency of fertilizers generally.

Production potentials of the North Central states for each of the major fertilizer-using crops show that in an average year with full fertilization, corn yields could be increased from 44 to 67 bu. per acre for the entire region, an increase of more than 1 billion bushels a year (table 3).

Yields of rye and hay could be more than doubled, wheat increased from 16 to 29 bu. per acre, barley from 24 to 34, oats from 38 to 63, soybeans from 23 to 36 and potatoes from 187 to 312 bu. per acre.

(Continued on page 16)

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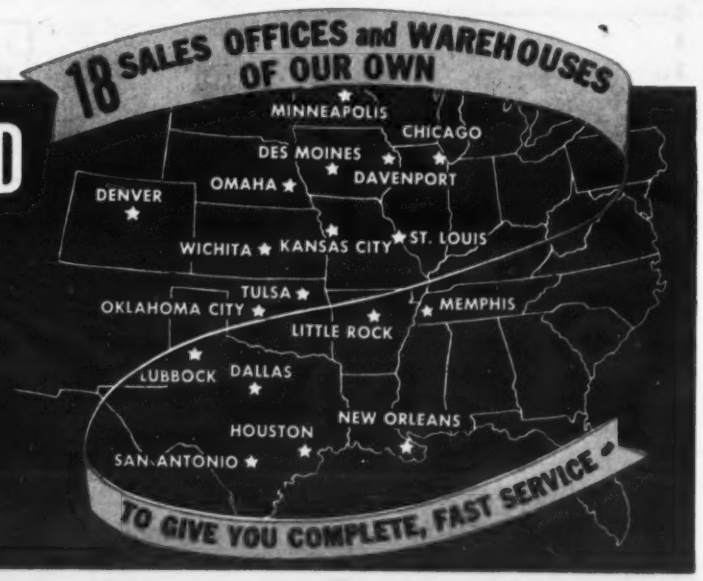
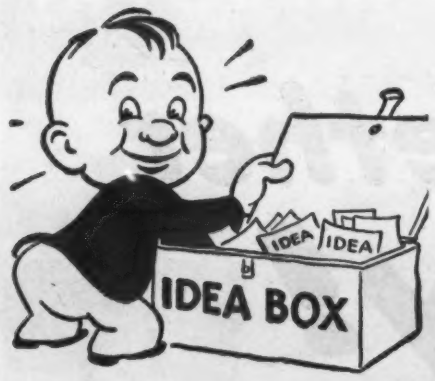




What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6189—Liquid Fertilizer Wagons

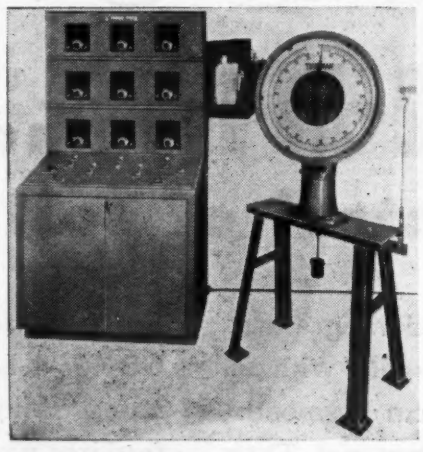
Prior Products, Inc., has prepared a brochure on its Ranger line of liquid fertilizer farm wagons. The brochure states that "through the use of the Linco level load axles it was possible to design these Ranger wagons with an extra low center of gravity . . . permitting easy access to operating valves and gauges . . . spring cushioning to eliminate shock and twist, important in preventing tank 'seam rupturing.'" There are three applications to choose from in the level load design and one application less the level load feature, but with spring loaded fifth wheel. Secure the brochure by checking No. 6189 on the coupon and mailing it to this newspaper.

No. 6190—Range Fertilizer Folder

Balfour, Guthrie & Co., Ltd., has issued a new folder titled, "A Report to California Ranchers—$16.99 Average Increase in Profit Per Acre," which is available without charge. Case histories of demonstrations on 13 California ranches in nine counties are included in the booklet. The folder states that range fertilization produced "four times more beef per acre, plus 6-8 weeks earlier range readiness." The company's Elephant Brand fertilizer was used in the demonstrations. Secure the folder by checking No. 6190 on the coupon and mailing it to this newspaper.

No. 5044—Batching System

A new electronic batching system is now available for the continuous process industries, according to a recent announcement by the scale division of the Thurman Machine Co. The system, called the Thurma-tronic electronic batching system, is adaptable to either accumulative or consecutive weighing. Controls may be set to weigh one batch or for completely automatic continuous batching. In addition, controls may also be set to weigh any specific number of batches. Thus, all materials in any formula can be automatically weighed and transferred from storage bins to mixers and processing machinery without delays, the company claims. All new or existing plants can be equipped with this batching system, it is stated. The system permits a batching cycle to be completed in a matter of seconds, it is claimed by company officials. Full details on this batching system and any special accessories, such as strip-chart recorders, one turn dials, etc., may be obtained by checking No. 5044 on the coupon and dropping it in the mail.



Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted here to help keep retail dealers on rotational circulation informed of new industry products, literature and services.

No. 5055—Grain Fumigant

A folder describing its grain fumigant, Lethogas, has been prepared by the Parsons Chemical Works. Entitled "Facts and Data on Parsons Lethogas," the folder tells how the product works as a fumigant for grain weevil and certain other insects. The product forms a gas upon exposure to air, destroys by contact and gas fumes and is not a fire hazard, it is claimed. The product is sold in 5-gal., 30-gal. and 55-gal. drums for use in larger structures and in ½-gal., 1-gal. and 5-gal. cans for farm use. Facts about Kilane residual spray, an insecticide spray, are also included in the folder. Methods for the hand in hand use of Lethogas and Kilane to control weevils are outlined. To secure the folder check No. 5055 on the coupon and drop it in the mail.

No. 6187—Cherry Leaf Spot Control

Control of cherry leaf spot wit Crag Fruit Fungicide 341 (aglyodi solution) is the subject of a ne six-page pamphlet released by Ca bide and Carbon Chemicals Co., division of Union Carbide and Carbo Corp. The pamphlet discusses met ods of applying Crag glyodin solutio and lists suggested spray schedule compatibility data, and the costs using this organic fungicide. Copi of this new pamphlet (Form 841 and additional information are avai able by checking No. 6187 on th coupon and mailing it to this new paper.

No. 5045—Packaging Bulletin

The Triangle Package Machine Co. announces the availability of a s page bulletin, "Profitable Solution Your Package Filling Problems." Th bulletin describes the firm's line Elec-Tri-Pak net weighing and fillin machines and lists the advantages using a unit to do many of the pack aging jobs now done by hand. Si models, from the automatic, one-sca model A1C to the three-scale mode A3C are described in the bulleti Copies of the bulletin may be ob tained by checking No. 6045 on th coupon and mailing it to this publ cation.

No. 6188—Fertilizer Applicator, Planter

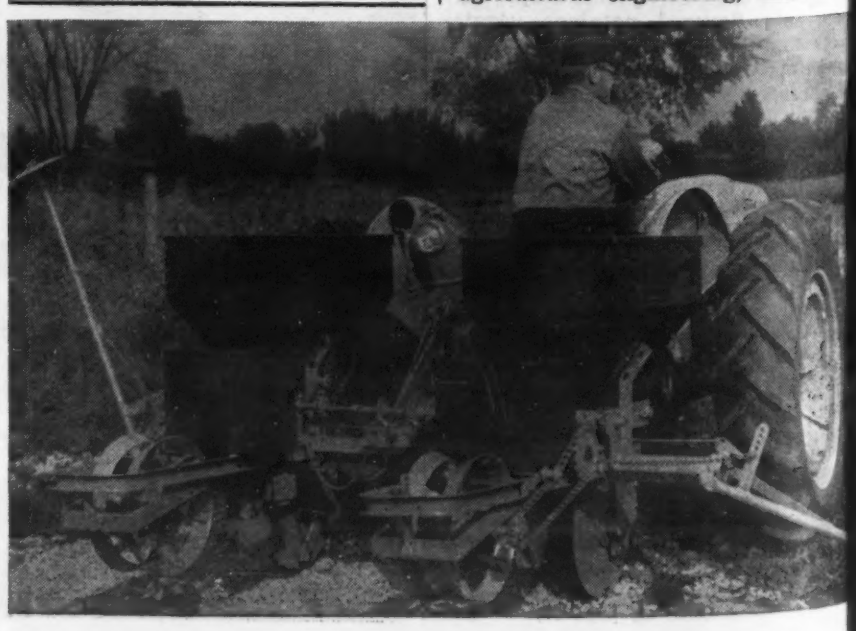
Working in cooperation with so and fertilizer experts at Michiga State College, Farmcraft Mfg. Co Inc., is producing a unit called th Hi-Yield, two-level fertilizer applica tor and planter. The new unit place two bands of fertilizer in the ground one band 8 in. down, the other 4 i down. Seeds are placed 2 in. to on side of the shallow band and 2 i below the ground surface.

Unique construction enables th applicator-planter to lay down tw different analyses simultaneously, ac cording to the firm, and divided see hoppers also make interplanting pos sible. The Hi-Yield will do drill c hill drop planting, by simple inter change of metering plates in the hop pers. In addition, the unit can b adapted to liquid fertilizers, th company states.

Planting and fertilizing speeds u to five miles per hour are claime with no sacrifice of seed or fertiliz placement accuracy. Extra large fer tilizer and seed hoppers are provided

Two-level fertilizer placement, it explained, attempts to provide th nutrient for beginning growth (shal low band) while the deeper band ca contain an analysis suitable for bring ing the plant to maximum size an productivity.

The prototype of the machine wa designed at Michigan State Colleg under the direction of a group o soil and fertilizer experts, headed b C. M. Hansen, assistant professor o agricultural engineering, and R.



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☐ No. 5058—Tractor Shovel	☐ No. 6188—Applicator
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☐ No. 6184—Garden Chemicals	☐ No. 6190—Folder

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ucas, associate professor of soil sci-nce. For more information check o. 6188 and mail the coupon.

No. 6185—Radiation

Radiation Applications, Inc., has ssued new literature on the potential se and effects of radiation in insec-cides. The firm states in its liter-ture that radiation has already been mployed to kill insects which infest rains, to produce disease resistance n growing crops and to alter physical roperties and chemical reactions. he material explains how the com-any's consulting service and publi-ations can assist the farm chemical ndustry in its radiation research roblems. To secure the literature heck No. 6185 on the coupon and hall it to this newspaper.

No. 5058—Tractor Shovel

The Frank G. Hough Co. announces roduction of an improved Payloader ractor-shovel with bucket capacity f 1 cu. yd. payload and ¾ cu. yd. truck load. Designated as the model HFC, it is a rear-wheel drive model nd features a combination of special ew transmission, plus torque-con-erter drive. The torque-converter is of the self-cooled, 3-element type which automatically multiplies torque output of the engine in direct proportion to the load requirements. The transmission is of full-reversing type, giving four speeds forward and four reverse up to 28 mph. To secure more information check No. 5058 on the coupon and drop it in the mail.

No. 6186—Insect Control

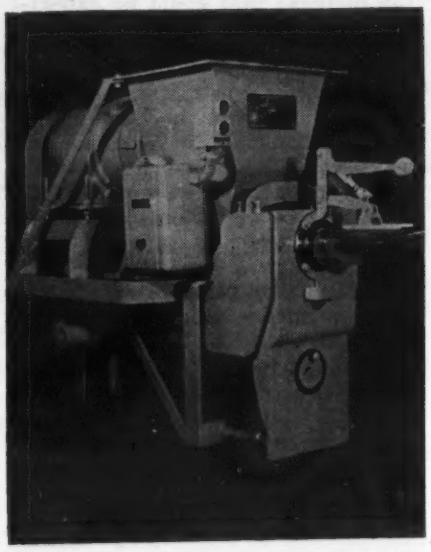
A new chemical combination that can be sprayed or dusted on roses to control insects and fungus diseases will be available for rose growers and gardeners for the 1955 gardening season from E. I. du Pont de Nemours & Co., Inc. Called Du Pont rose insecticide and fungicide, it succeeds the firm's rose dust based on the "Massey formula" for control of black spot and other rose diseases. The new material contains a combination of three insecticides in a low toxicity mixture, plus the Massey formula of sulfur and "Fermate" ferbam fungicide. The insecticides include methoxychlor which gives residual control of most common insects, lindane for aphid control and quick insect knock-down, and "Aramite" miticide for specific control of red spider mites. Although prepared especially for the rose grower, it can also be used on most other flowers and ornamentals. To secure more complete details check No. 6186 on the coupon and mail it to Croplife.

No. 6184—Garden Chemicals

Its entire line of garden chemicals will appear in "weatherproof" packages, it has been announced by E. I. du Pont de Nemours & Co. Twelve of the company's garden formulations will be packaged in the weatherproof dust guns and canisters. The others are to be packed in glass bottles or weather-resistant paper bags. For the four combination insecticide-fungicide dusts, the weatherproof packages include an 8-oz. dust gun applicator package and a 1-lb. canister with a sifter top. The company's garden chemicals include insecticide-fungicide combinations, weed killers, fertilizers, aphid and mite spray and fungicides. To secure more complete details check No. 6184 on the coupon and mail it to this newspaper.

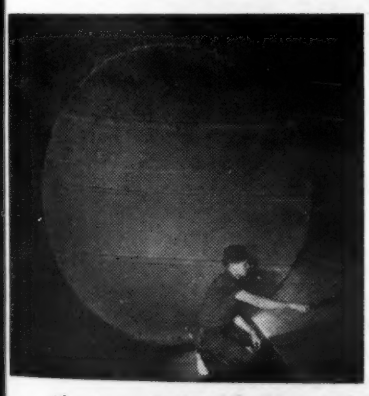
No. 5065—Bag Packer

A new, smaller bag packer is now available from the H. L. Stoker Co. Extensive tests in commercial operations on this bagger, called the Econo-Speed model 54, have been very satisfactory, company officials said. The packer fills valve or open-mouth bags and drums. It is said to deliver 1 cubic foot in five to 10 seconds, depending on the material handled. Delivered as a complete package, it



merely has to be plugged in to the electrical circuit to operate. It is designed to handle practically any powdered or granulated material. For more complete details check No. 5065 on the coupon and drop it in the mail.

Liquid Fertilizer TANKS



The Economical Answer to Fertilizer Handling Problems

Increased demand for liquid fertilizers means proper equipment for bulk handling if you and your dealers are going to meet competition and show a profit.

One kind of tank—the rubber-lined tank—has been proved most economical and dependable. Acme-Fisher has had long experience in this field, supplying leading chemical companies with standardized acid-handling equipment.

Write, wire or phone for quotation on your needs. We fabricate our own steel, save two profits on every job.

ACME FISHER
DIVISION
BROADWAY RUBBER CORPORATION
730 S. 13th St. • Louisville, Ky.
WAbash 5096

The Bulletin Board

No. 5 in a series from the Spencer Chemical Company Magazine, "Today's Fertilizer Dealer."

An easy way to build interest in your store is to set up a fertilizer library. Above, A. H. Meinershagen of Higginsville, Mo., shows a corn folder to August and Ferdinand Opfer. A good display rack should feature both college bulletins and commercial material for maximum appeal.

Tested Secrets of In-Store Selling

Extra sales in the store are always mighty welcome. But they're especially important when that spring rush hits, and you can't get out of the store for any farm-to-farm selling or hard-hitting promotion.

Here are some tips on how to pick up extra dollars without setting your foot outside the door. They come from your own fellow-dealers, who've tried them and found they pay off.

Samples are a quick way to direct talk to fertilizer, many dealers report. Have a few sample bags of Spencer "Mr. N" Ammonium Nitrate lying on the counter . . . or one of those intriguing "hour-glasses" of "Mr. N". Few customers can resist picking them up. When they do, they're ready for your pitch.

"What your neighbors are doing" is a topic that brings instant attention. Harry Grote, of Council Bluffs, Iowa, has every farm in his county pinpointed on a map, and he knows the facts on crops and yields for most of them. Almost everybody looks at the map when he comes in, and there's no better time to bring up the results of good fertilizer practices in your county.

Armed with soil test results, Harry Grote is ready to talk with farmers about a specific fertilizer program. He also uses wall displays, and other visual aids to help demonstrate plant food deficiencies. Harry believes that soil testing is truly the best way to sell fertilizer—and the best method of in-store selling.

Conversation naturally switches from seed-corn to fertilizer. Here Ken Winterscheidt, right, of the Winterscheidt Elevator, Seneca, Kansas, shows Roger Dannevick of Vermillion, a sample of seed-corn he has in stock. The transaction settled, Ken will turn the talk to fertilizer.

Mr. N SPENCER®

SPENCER CHEMICAL COMPANY
General Offices
DWIGHT BUILDING
KANSAS CITY, MO.

Better Selling

Richer Sales Fields for Dealers

Test Your FERTILIZER I. Q.

By DR. MALCOLM H. McVICKAR
Chief Agronomist, National Fertilizer Assn.

Q. What are commercial fertilizers; what do they contain?

A. Broadly speaking, any chemical compound used for supplying one or more of the essential plant food elements is a chemical fertilizer. Quantities of three plant food elements, nitrogen, phosphorus and potassium in the soil are often inadequate to supply nutrients needed for efficient production of crops. Thus, most chemical fertilizers supply one or more of these primary food elements.

they'll be poppin' their kernels

with POWCO BRAND

ALDRIN

CONTROL SOIL PESTS . . . INCREASE YIELDS

Powco Brand 20% Aldrin Granular Concentrate and 2 lb. Aldrin Emulsion Concentrate:

1. Protect germination. 2. Are safe on seed and plants. 3. Provide early stands. 4. Reduce harvesting costs. 5. Provide better quality crops. 6. Are not absorbed by or translocated in plants. 7. Give no off-flavor. 8. Are chemically stable.

POWCO BRAND — KILLING POWER—THAT'S THE THING!

JOHN POWELL & COMPANY
Div. of Olin Mathieson Chemical Corp.
One Park Ave., New York 16, N. Y.
Chicago, Atlanta, Forth Worth, Omaha, Denver, Pittsburgh, Philadelphia, Huntsville, Ala.

DDT • TOXAPHENE • BHC • CHLORDANE • LINDANE • ROTENONE • SABADILLA
PYRETHRUM & PYRIN • ANTU • PIPERONYL BUTOXIDE • MALATHION • ALLETHRIN
TEPP • PARATHION • ALDRIN • DILAN • HEPTACHLOR • 2, 4-D & 2, 4, 5-T • FLY FLAKES

LOOK TO POWELL . . . FOR CONSISTENT TROUBLE-FREE QUALITY

SHOP TALK OVER THE COUNTER FOR THE DEALER

By EMMET J. HOFFMAN
Merchandising Editor

Dealers are depended upon to continually improve the selling climate for farm chemicals. They might be referred to as the shock troops of the industry. This leaves no place for such outdated and improper practices as high pressure selling, order-taking, hocus-pocus sales, misrepresentation of a product's qualities, knocking the competitor's products and handing out "bum dope" for the sake of clinching a sale. For these undesirable practices are like so many scars which mar the selling climate for farm chemicals. Invariably they come back to haunt the dealer who is guilty of their use.

Intelligent dealers work daily to improve the selling climate for their products. They make sure their advertising is constructive and informative. Shotgun claims are avoided. They know that the facts alone concerning fertilizer and other farm chemicals require no extravagant claims.

Dealers with their own business and that of the industry at heart won't send out a salesman who isn't a credit to his firm and his industry.

A dealer who gets the reputation as a "one order seller" builds on a weak foundation. Rather, the dealer who goes out and gets business on a solid repeat basis is the one who'll be around five, 10 and 20 years from now.

Further, any dealer or his salesman who knocks the competitor's products forgets that farm chemical sales in many states need to be expanded by 200, 300 and 400%. There remains a lot of selling to be done in those states but it ought not be done by inferring that your competitor wears horns and a pointed hat.

What's a Good Dealer?

How can a dealer improve his sales climate further?

He should be a good dealer in the first place, one who is in good health financially. The dealer does not long operate unless he has the finances and the capital to do it properly. He ought to strive to increase his dollar volume. If for some reason this is impossible he should at least maintain his dollar volume. Or if a temporary dollar volume decline is unavoidable there should be an adjustment in labor cost.

Current liabilities should be as low as possible. Discounts on purchases should be taken wherever possible.

A good dealer will do not just enough but a little more than adequate on-the-farm selling. A good dealer is willing to learn to sell, to learn about new ways and new means of doing things. A good dealer is willing to be a top-notch merchandiser and a heads-up citizen in his community.

FERTILIZER USE

(Continued from page 13)

The estimates of the North Central yield potentials are very conservative and reflect generally only the increase that could be expected from increased fertilizer use only.

The amount of fertilizer necessary to produce maximum yields is, of course, very large. In Wisconsin, for example, estimates indicate that the total tonnage required would be between 2 and 2½ million tons annually. Applications necessary for maximum yields, however, would be much less after high rates of application had been made for a few years, as evidenced by the buildup of available phosphorus in east coast soils.

Recent Wisconsin experiments indicate that following high initial applications of phosphate and potash, the subsequent rates required are less. It is expected, however, that rather high annual applications of nitrogen will be required to maintain top yields.

If "all-out" food production becomes necessary, it is believed that adequate fertilization accompanied by other improved practices can double present yields for the region as a whole.

Weevil Infestation

MANHATTAN, KANSAS—Weevil infestation is now showing up in Kansas, according to the Kansas Wheat Improvement Assn. The infestation is found in wheat which has not been fumigated or protected with protectants, the association says. It advises that all bins should be checked now and fumigated if necessary.

TREATED POSTS

URBANA, ILL.—Not one treated softwood fence post has failed out of 150 in the ground for 7½ years in a test now going on at the Dixon Springs Experiment Station in Pope County, Ill. Nine of the posts show some decay, but they are still serviceable, says C. S. Walters, forest products specialist at the University of Illinois College of Agriculture, in charge of the experiment.

FIRST TIME EVER OFFERED Complete

CAMPBELL'S GRO-GREEN ...with Foliage DIETENE

LIQUID FERTILIZER

Manufacturing Plants and Formulation Franchises for Local Areas

Plant installations completely engineered and equipped.
Bulk storage and tank truck units—field storage tanks and applicators.
Laboratory testing and research.
National advertised package goods available.

H. D. CAMPBELL CO.
Dept. E—Farm Products Division
Rochelle Illinois

NORTHEAST WEED CONFERENCE

(Continued from page 8)

4-dichlorophenoxyacetic acid in ontrol where alfalfa is involved; 2, 3, -trichlorobenzoic acid and its sodium lt in pre-emergence control in corn; odium 2, 4, 5 - trichlorophenoxyethyl ulfate and related chemicals in con- ol with tomatoes and for control f goosegrass in golf-greens; 3-(3-4, ichlorophenyl) - 1, 1 - dimethylurea or certain advantages in longer weed ontrol and greater safety to veget- bles in some instances; 2, 4, 5-tri- hlorophenoxypropionic acid for pre- mergence control in corn; 2-chloro- thyl N-(3-chlorophenyl) - carbamate or control in mustard greens, cab- age and related vegetables, and di- odium methyl arsonate for crab- rass control.

W. P. Anderson, American Chemi- al Paint Co., Ambler, Pa., presented paper on relative biological activi- ies of the four monochloro ortho resoxy acetic acids. The observations nade included root growth inhibition, ell proliferation, pre- and post-emer- ence herbicidal effects.

Results indicated 2-methyl 6-chloro- henoxyacetic acid had no apparent erbicidal activity when applied pre- mergence to wheat, ryegrass, crab- rass, giant foxtail, soy bean and ed clover grown under greenhouse onditions, he said. The same com- ound showed slight herbicidal activi- y with corn and tomato, marked ac- ivity with cotton and caused death f pig weed plants.

Field studies with a new class of erbicidal chemicals were discussed y L. H. Hannah, Monsanto Chemical Co., St. Louis. In characterizing lpha - chloro - N, N - diallyacetamide nd alpha-chloro-N, N-diethylaceta- nide, Mr. Hannah said they were ex- remely successful on heavy clay soils nd have performed well on high or- anic matter soils.

Serious hazards were not seen in se of the two chemicals, and they were reported highly effective as rass - specific pre - emergence herbi- ides for use among a wide variety f agronomic and horticultural crops. n addition, little crop damage re- ulted with application at twice nor- al rates needed, low rates were ef- ective and variation in moisture be- ore or after application did not reatly modify control effectiveness, he speaker said.

P. W. Santelmann, University of Maryland, College Park, reported on he absorption and translocation of Dalapon, which was recently intro- duced by the Dow Chemical Co. Greenhouse studies were conducted o discover how Dalapon acts on a rass plant.

A progress report of crop toler- nce period following various rates f Amizol was presented by A. J. Tafuro, American Chemical Paint Co., Ambler, Pa.

W. H. Minshall, Science Service Laboratory, London, Quebec, utilized colored slides in presenting a progress report on mode of action studies with CMU. Tests with corn and beans indi- cated primary place of action was in ips of plants.

Equipment factors affecting the application of wettable powder formulations of substituted urea herbicides were described by L. E. Creasy, E. I. du Pont de Nemours & Co., Wilmington, Del. Air agita- tion is not considered effective for agitation of wettable powder for- mulations, he said, and added jet agitation appeared quite feasible.

A diagram of preferred piping ar- rangement for hydraulic jet agitation was explained by Mr. Creasy.

In addition to Mr. Willard, other speakers at the extension session in- cluded Raymond J. McMahon, Mc- Mahon Bros., Binghamton, N.Y., who spoke on public acceptance of vege- tation control along highways; E. D. Markwardt, Cornell University, Itha- ca, N.Y., who advised on equipment available for applying solubles, emul- sions and wettable powders; R. E. Patterson, Pennsylvania State Uni- versity, State College, who compared boom and boomless sprayers; E. R. Marshall, G.L.F. Soil Building Serv- ice, Ithaca, N.Y., who presented a review of recent advances in chemi- cals and practices in weed control among various crops, and Donald A. Schallock, Rutgers University, New Brunswick, N.J., who displayed visual aids in a weed control program.

Presiding at the general session were Mr. Van Geluwe and conference president, A. O. Kuhn. Mr. Schallock presided at the extension session.

Weed control on horticultural crops was to be a principal topic for dis- cussions during Jan. 6 and 7 sessions. A report of these sessions will ap- pear in the Jan. 17 issue of Croplife.

New England Group Reports on Atomic Power

BOSTON—Nuclear power will not bring great savings to farmers in cost of electricity, but rather will supplant diminishing supplies of other fuels, an interim report of the area's Atomic Energy Committee, which predicted that atomic power will be produced here within 10 to 20 years, said.

The report urged appointment of an atomic development coordinator in each New England state and stressed need for uniform atomic en- ergy laws and regulations in the six- state area consistent with federal laws.

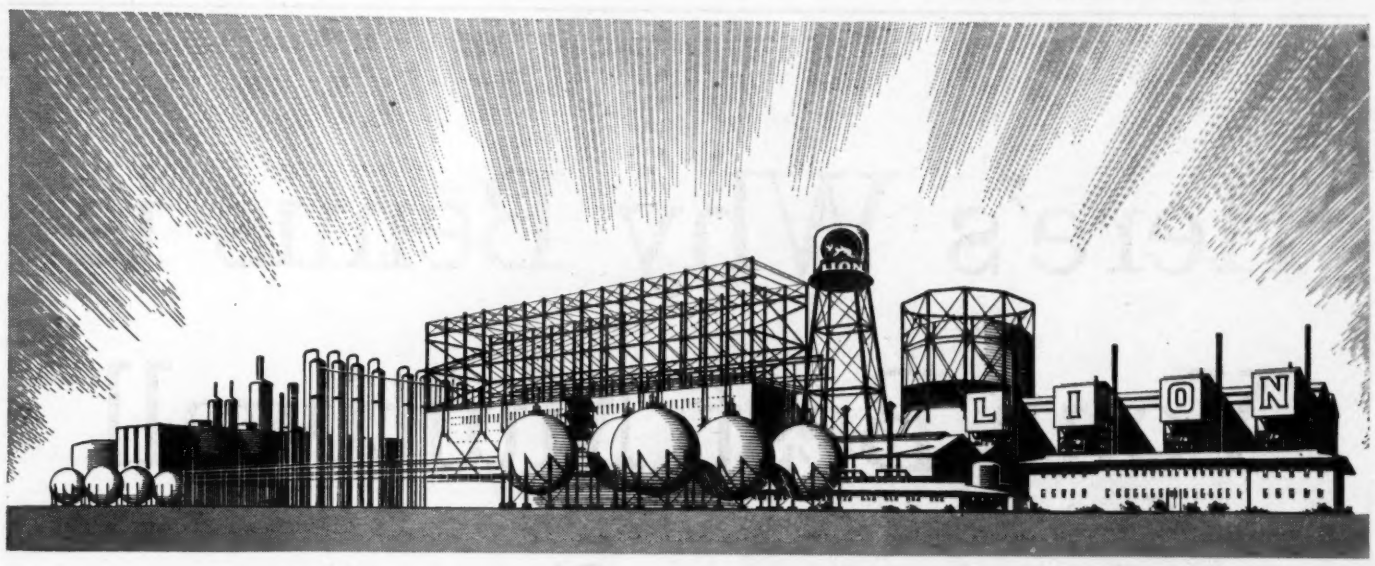
The report was released by Gov. John Lodge, chairman of the New England Governors Conference. It suggested financing be obtained for two additional low powered research reactors besides two already planned. These would cost from $100,000 to $1 million each.

Charles Belknap, Former President Of Monsanto, Dies

ST. LOUIS — Charles Belknap, former president of Monsanto Chem- ical Co. and vice chancellor of Wash- ington University here, died Dec. 29 at his home of a heart ailment. He was 74 years old.

Mr. Belknap served as president of the chemical firm from March, 1943, to October, 1945, and continued as chairman of the executive com- mittee until his retirement in 1946. He then was appointed to the new post of vice chancellor of the uni- versity and served until 1951.

A 1903 graduate of the United States Naval Academy, he served during World War I as chief of the Navy's Overseas Transportation Service. He received the distinguished service medal for his work from both the army and navy. He resigned from the Navy in 1919 with the rank of commander.



How LION Helps YOU Sell
NITROGEN FERTILIZERS

✓Two Giant Chemical Plants Assure the Supply
✓Advertising Helps Create the Demand

As a retailer, you'll find it to your advantage to sell Lion nitrogen fertilizers, because Lion's manufacturing capacity and storage facilities assure a ready supply of top-quality ma- terials, and Lion's consistent advertising *pre-sells* the Lion brand.

Capacity? Lion's two giant chemical plants are now in production, making Lion a leader in manufacturing the most popular and economical types of nitrogen fertilizers not only in the South but nation-wide.

Delivery? Lion has constructed huge storage facilities to accumulate enormous stocks of the various nitrogen fertilizer materials. Even when demand is intense, you can get Lion nitrogen products.

Pre-selling? Lion's continuous advertising does an effective pre-selling job for you with your farmer customers. See list below.

Feature and sell nitrogen fertilizers with the Lion emblem on the bag, or Lion's anhydrous ammonia. You'll make sales easier, which means more profit for you.

Look To LION—A Leader In Petro-Chemicals—For Nitrogen Fertilizers

Lion Anhydrous Ammonia • Lion Ammonium Nitrate Fertilizer
Lion Aqua Ammonia • Lion Nitrogen Fertilizer Solutions
Lion Sulphate of Ammonia

LION FERTILIZER ADVERTISING REGULARLY APPEARS IN:
• Farm & Ranch-Southern Agriculturist
• Prairie Farmer
• Progressive Farmer
• Wallace's Farmer & Iowa Homestead
• Leading State Farm Publications

DISTRICT SALES OFFICES:
NATIONAL BANK OF COMMERCE BLDG., NEW ORLEANS, LOUISIANA
SHEPHERD BUILDING, MONTGOMERY, ALABAMA

LION OIL COMPANY
CHEMICAL SALES DIVISION — EL DORADO, ARKANSAS

WORLD REPORT

Industry News from Everywhere

By GEORGE E. SWARBRECK
Croplife Foreign Office Manager

In its annual review of world production and consumption of fertilizers the Food and Agriculture Organization of the United Nations reports that after the rapid expansion of the immediate post war years, increases in production have held relatively steady during the last few years. The only exception to this statement is the disturbance to supplies caused by the recent sulfur shortage.

Countries which use fertilizers heavily have continued to increase their production and consumption, FAO states. Other countries, hitherto small users of fertilizers, have begun to hike consumption, and this has led to the establishment of local plants to meet the demand. This trend is seen as a continuing one.

Forecasts for 1954-55 indicate that production will increase 4.5% over 1953-54 while consumption will go up 4.9%. If these forecasts are achieved, FAO points out, output and usage will have increased 17.6% and 21.1% respectively during the three years from the middle of 1952.

Although phosphoric acid has now recovered from the setback caused by the world shortage of sulfur, rates of increase for both production and consumption have been less than for nitrogen and potash. While this situation continues the usage of nitrogen and potash is likely to increase more rapidly than that of phosphoric acid, the report declares.

FAO predicts, however, that in a few years time the world may produce and use approximately equal tonnages of nitrogen, potash and phosphoric acid.

Argentine DDT

A plant for manufacturing DDT is to be established in the province of Cordoba, Argentina, in the near future, according to the J. R. Geigy Co. of Basle, Switzerland. Planned production is five tons a day, sufficient to meet domestic needs and provide a small surplus for export. Associated with the Swiss company in the enterprise is Sociedad Mixta Atanor of Buenos Aires.

Freight Rate Hike

The recent severe jump in freight rates now assessed at 30% higher than they were at the beginning of the 1954-55 fertilizer season, is causing difficulty for the trade. In some cases the cost of shipping small cargoes has jumped more than 45%.

The British fertilizer manufacturer is feeling the pinch acutely. Superphosphate production in the U.K. is wholly based on imported rock phosphate, and all the potash has to be imported also. Into most of the compound fertilizers go one or the other of these ingredients.

A boost in price is seen as inevitable, itself a disturbing situation in the domestic market, but much more dangerous in overseas markets, where the British have been gaining strength.

The inevitability of a price increase has been hinted by the Fertilizer Manufacturers' Assn. and by the Superphosphate Manufacturers' Assn. in a joint statement.

The associations stated: "Sea freights are an important part of the costs of all raw materials required for the manufacture of such fertilizers as superphosphate, triple superphosphate and ground phosphate rock. In recent months there have been large and unexpected increases in freight rates, which are now considerably higher than those in operation when fertilizer prices were announced for the current season.

"Fertilizer manufacturers are unlikely to be able to absorb such increases in their costs. It seems probable, therefore, that the price of the fertilizers mentioned will rise before very long — and also the prices of compound fertilizers containing them."

One purpose of this statement, observers say, was to persuade farmers to place their orders and take up deliveries speedily in order to avoid extra costs.

Urea on Pineapples

Australian scientists have proven an effective method of feeding nitrogen to pineapple plants. They are doing it by spraying the foliage with urea.

The formation of the basal leaves is such that they make a segment of a circle and some of the sprayed solution is held for gradual absorption. This makeup is found in few other plants, and in the case of pineapple the scientists express themselves as completely satisfied with their experiment.

Fertilizer Pool

The Indian government has decided to maintain the fertilizer pool established in 1943, during 1955 to insure adequate supplies for farmers.

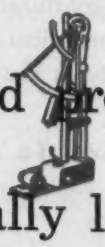
The decision is based on a recommendation made by a recently held New Delhi conference of agricultural officials from the states. The conference favored continuation of the pool because it felt that it was not always possible for the fertilizer producing units in the country to meet the full demands of farmers with regularity.

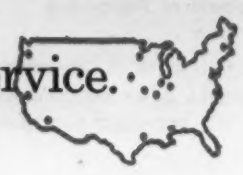
The conference also discussed questions relating to the supply, distribution and sale price of fertilizers and examined a scheme for obtaining greater usage of phosphatic and potassic fertilizers.

The question of increasing the consumption of urea, ammonium sulfate, ammonium nitrate, superphosphate and bone meal was also examined. The view was expressed that stress should be laid on the greater usage of superphosphate and bonemeal. The officials also agreed that the possibility of starting a superphosphate pool shuld be explored.

Here's Why Bemis is Your Best Multiwall Paper Bag Source...

Since 1858, Bemis has SPECIALIZED in making Bags. Bemis buys tremendous quantities of kraft paper and so can get the "pick of the crop." Bemis laboratories are the watch dogs of paper quality. Bemis engineers work constantly on new and better bags for diversified products. Bemis' twelve multiwall plants are strategically located to give unexcelled service.





Bemis

General Offices — St. Louis 2, Mo.
Sales Offices in Principal Cities

New Australian Plants Schedule Production Starts

LONDON—The Electrolytic Zinc Co. of Australia Ltd., reports that its new sulfate of ammonia plant at Risdon, Tasmania could be ready for operation early in 1955.

However, electric power will not be available until the middle of the year, and even then it will be below the rate contracted for, and may continue so for some time.

This means that even when it starts up the plant cannot operate at total capacity until full power is available. When it reaches its potential, the plant will supply 50% of the current Australian consumption of sulfate of ammonia, reports state.

The Electrolytic company produced 104,714 tons sulfuric acid, 14% of total Australian output, in the year ended June 30, 1954, according to the annual report.

Australia's main requirement is for superphosphate, and the prevailing shortage is expected to be eased, if not ended, when the new $3 million sulfuric acid and superphosphate plant of the Sulphide Corporation Pty., Ltd. at Cockle Creek comes into operation in the near future. Capacity is rated at 2,000 tons superphosphate a week and 100 tons sulfuric acid a day.

The plant will use rock phosphate imported from Nauru. To obtain superphosphate fertilizers, the plant is equipped to grind the rock to a powder and then treat it with sulfuric acid. The plant will also burn pyrites, discarded from the treatment of ores, using the vanadium catalyst method patented by the Monsanto group to manufacture sulfuric acid.

Another superphosphate works at Albany, Western Australia, is reported to be in full production, with equipment of a completely new design.

One notable change is the elimination of the old system of revolving drums in the sulfur burning tower. The disadvantage of this system, observers say, is that production has to be shut down at frequent intervals to allow the cleaning of the drums.

At the Albany plant the drums have been replaced with coarse sand at the base of the tower. Agitated by jets of air the sand collects impurities from the burning sulfur and can be removed and renewed without interrupting operations.

Monsanto Names William R. Farrell Director of Advertising

ST. LOUIS — Additional developments in Monsanto Chemical Co.'s new organization plan relating to advertising and public relations activities were announced here Jan. 3 by Charles Allen Thomas, president.

Effective Jan. 1, William R. Farrell of St. Louis became director of advertising. At the same time, Howard A. Marple of St. Louis, in addition to his present duties as director of public relations, became manager of the Monsanto Charitable Trust through which are handled the company's contributions to the various charitable activities which it supports.

Dan J. Forrestal will retain his present responsibility as manager of public relations and will serve as operational administrator for the company's public relations staff both in St. Louis and in the field.

Mr. Farrell joined Monsanto as manager of advertising in April of last year. He was formerly first vice president of Ward Wheelock Co. Previously he had been vice president of Benton & Bowles and the A. C. Nielsen Co.

Fertilizer Helps Boost Yields in Soybean Contest

LAFAYETTE, IND. — Forty-seven fields have been checked with yields in excess of 50 bu. per acre, and 102 fields between 45 and 50 bu., in the Indiana soybean yield contest over the past 14 years, according to K. E. Beeson of Purdue University.

The champions averaged 50.3 bu. for the first 10 years when not less than two acres were measured. For the past four years not less than five acres have been measured and the four champions have averaged 54.1 bu.

The top yield in the contest, 61.8 bu. per acre, was grown by George M. Shell, a Madison County soybean grower in 1949. Mr. Shell also holds a four-year record average of 57.3 bushels.

Fertilizer applications are usually 200 to 300 lb. of a 1-1 ratio phosphate and potash fertilizer such as 0-12-12 or 0-20-20, used at planting time with the corn planter. Where it has been felt that potash might be the limiting factor the plowing down of 300 to 400 lb. potash has been practiced.

The high yields in the contest have been grown on farms in a high state of fertility where the farmer follows excellent fertility practices from every angle. Corn and wheat usually receive the heavy fertilization on these farms with the soybeans benefiting from the residual effects of this plant food.

Arthur L. Trainor Dies

CLEVELAND—While at an Independence, Mo. hospital for a medical check-up, Arthur L. Trainor, 60, Diamond Alkali Co., died unexpectedly Dec. 16. The late Mr. Trainor was a specialist in dry cleaning and grain fumigant product sales for Diamond Alkali. He had been employed by Diamond in various sales capacities since 1939.

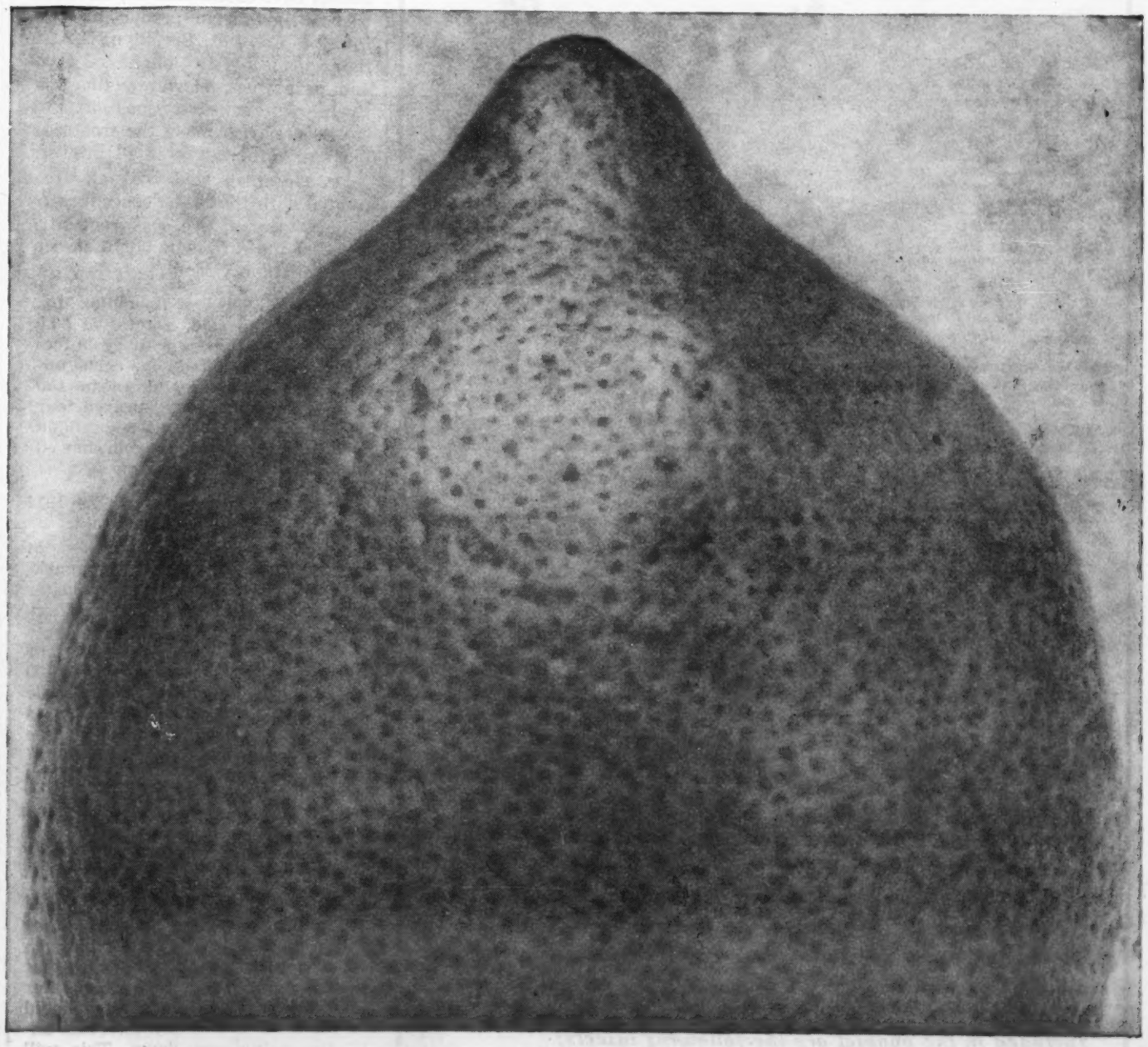
Wildfire-Resistant Tobacco Developed

WASHINGTON—Burley 21, a new tobacco variety practically immune to the wildfire disease, will be available to growers for 1955 planting, the U.S. Department of Agriculture has announced. This variety has combined resistance to three destructive diseases of burley tobacco—wildfire, tobacco mosaic and black root rot, according to USDA.

Development of this new, disease-resistant tobacco is the result of many years of cooperative research by USDA's Agricultural Research Service and the Tennessee Agricultural Experiment Station.

WEEVIL SURVEY

MARLIN, TEXAS — A survey of Falls County, Texas will be made this month to determine the need for a sweet potato weevil eradication program, according to John C. White, Texas commissioner of agriculture.



LEMON-AID

Modern commercial fertilizers have been a valuable aid in producing the bigger, more juicy citrus fruits now appearing on American tables.

Potash, an important component of these fertilizers, enriches the soil, improves crop quality, builds resistance to disease, and increases product yield. United States Potash Company high-grade muriate of potash has the highest K_2O content, and is free-flowing and non-caking —important advantages in the production of fertilizers that make today's citrus crops the finest ever grown.

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Mosquito
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Tuber Flea Beetle
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ANTIBIOTIC PROGRESS

(Continued from page 1)

— AGRI-MYCIN —

in 1952 and 1953 showed that fire blight could be controlled with a spray containing the antibiotics at a concentration of from 500 to 100 parts to each million parts of water. Agri-mycin was then applied in six to seven sprays during blossoming.

However, Dr. Goodman told the growers, experiments held at nine different Missouri orchards during 1954 showed that the antibiotic concentration could be reduced by from 50 to 75% under the lowest levels previously used without impairing its effectiveness. And, he said, only three to four applications of Agri-mycin were needed for good control.

Previous reports by university and U.S. Department of Agriculture scientists have established the effectiveness of Agri-mycin, product of Chas. Pfizer & Co., Inc., Brooklyn, N.Y., in the control of fire blight in apple and pear trees. However, the relatively high concentrations of antibiotics used had made the treatment too costly for many small growers.

Dr. Goodman said that all trees treated with the lower concentration of antibiotics, applied less frequently, were "of the extremely blight-susceptible Jonathan variety."

In one orchard, at Boonville, Mo., Dr. Goodman said, a total of 50.0 blighted clusters (primary infection) was counted on each untreated apple tree. Trees in the same plot which were sprayed four times with the 50 parts per million concentration of Agri-mycin showed only 4.0 blighted clusters.

In stating the results of his 1954 experiments, Dr. Goodman said:

"Antibiotic sprays, regardless of number or concentration, very markedly reduced the number of cluster and shoot blight infections. There was little difference in the degree of control provided between the four and three spray-treated at either 100 or 50 ppm. The four-spray schedule at 25 ppm appeared to be equally as effective as either four or three sprays at the higher concentration."

— A. B. GROVES —

taining streptomycin, at the rate of 60 parts per million.

Mr. Groves said:

"Applications should begin either at the opening of the center blossom buds, or enough earlier to insure that the first application is made not later than this time. Applications should be repeated at five day intervals until the petals are down. This will usually mean two or three applications.

"Spray to wet only; overspraying may cause foliage chlorosis. Antibiotic sprays should be used alone so far as possible until more information on the influence of combining other materials with them has been developed.

"There are many unanswered questions on the use of antibiotics as agricultural sprays, but their performance has been so striking that interim recommendations as given here are considered to be justified.

"It is recognized that these recommendations may change as experience accumulates. Further information is being sought on the minimum effective rate of usage, the maximum safe interval between sprays, temperature influences, usefulness in spray combinations and effectiveness of antibiotics against the late or post-blossom infections."

— AGRISTREP —

ble Streptomycin formulation, has been effective in controlling these diseases, Dr. Garber said, and it can be applied as a dust or spray to plants or trees. Streptomycin is absorbed into the leaves and stems, thus furnishing protection against harmful organisms, he said.

No Streptomycin residue is found in the matured crop, Dr. Garber said, adding that many samples of pears, apples, peaches, beans and tomatoes taken from plots treated with Streptomycin have been tested. "Agristrep and other forms of Streptomycin are remarkably stable materials compared with man's other antibiotics and are generally compatible with pesticides used commercially," Dr. Garber said.

Agristrep is not yet being marketed on a full commercial scale, but extensive commercial trials are being conducted. Merck has been working with federal and state departments of agriculture and university investigators in these trials.

MID-SOUTH CHEMICAL

(Continued from page 1)

to supplies from four synthetic nitrogen plants. The company also will build on the island warehouses and office space. It will move its soil testing laboratory there. The warehouse also will be used to store other fertilizer elements such as potash, phosphate and mixed fertilizer goods.

When the anhydrous ammonia project is completed, plans call for the expansion of the facilities to provide storage tanks for liquefied petroleum gas and other petro-chemicals which can be moved by barge for distribution in this territory.

Expansion of the company's operations also is planned, with establishment of additional distributorships.

Plans are under way to provide special ammonia application equipment to farmers at small cost or on a partial rental basis.

The firm was formed in 1949 after company officials had pioneered the use of anhydrous ammonia with establishment of their first plant at Tunica, Miss., in 1947. Ellis Woolfolk is president of the firm; J. E. Wooten, vice president; Maj. Gen. Ralph H. Wooten (Air Force, retired), vice president; John C. Hogan, secretary-treasurer, and Dave H. Bradford, sales manager.

SCIENTISTS TO MEET

FT. COLLINS, COLO.—Scientists of the Soil and Water Conservation Research Branch of the U.S. Department of Agriculture will hold national meetings on the Colorado A and M College campus Jan. 11-13. Dr. Frank G. Viets, technical staff specialist of the Agricultural Research Service, is in charge of local arrangements. The conference on plant nutrition problems will bring some 25 scientists of the soil and plant relationship section and east and west sections of the Soil and Water Conservation Research Branch to Colorado A and M.

SOIL SAMPLING

LITTLE ROCK, ARK. — C. A. Vines, associate director of the Agricultural Extension Service, urges Arkansas farmers to send in soil samples now if they want results of tests before next year's plantings. Soil testing in Arkansas can be done either at the University of Arkansas School of Agriculture at Fayetteville or at the branch experiment station at Marianna.

FARM TRANSITION

(Continued from page 1)

mall areas are being surveyed. Extension Service field men are studying the composition of the land, the limate and the current crop conditions.

While such basic data is being ompiled, the Extension Service representatives have been studying costs nd profits with farmers and making uggestions as to different production ractices designed to give a better inancial return for the land use.

While such a technique is highly ffective, it is at best slow and seen s inadequate to meet the needs of the ecretary of agriculture in his goal.

That goal is a steady transition from a field crop economy to one of cover-pasture-livestock production on 35 million acres of land which are now admitted by soil use economists to be unsuited for those crops either because of the nature of the land itself or lack of adequate moisture.

It is necessary to call attention to the type of constructive work in the pattern of agriculture in the Southwest where a big impact of the Benson goal would be felt.

In Bulletin B-430 issued July, 1954, the Agricultural Research Service, working with Oklahoma A and M College at Stillwater, Oklahoma, reveals a template for agricultural transition for eastern Oklahoma prairie land farms.

In the pamphlet this agricultural experiment station provides a pattern of the type of cooperative work which is available for plant food and pesticide industries in contemplating their sales efforts.

These studies draw comparatives for farmers in that area in which the extension service sets up several suggested new farming practice patterns with a full breakdown of investment requirements, costs of operation and indicated returns on investment for each different type of farming operation.

Also significant, in light of the intimation of Mr. Jesness, is the sizeable increase of investment required to shift present farming operations to a varied type of farming in that state.

The deeper one digs into the ramifications of a planned transition from one type of agriculture to another the more it becomes apparent for the need of availability of large capital investment. This probably will not come from commercial banking institutions without some form of government cooperation, as for example government guarantees of commercial bank loans.

Digging into the problem produces the conclusion that the problem is not the simple one of setting up individual new farm production patterns, but also one of consolidation in many instances of uneconomic farm units into those which can compete successfully in a modern farm economy.

Behind all these observations is the unmistakable fact that the farm community has not yet felt the full impact of the flexible price support program and the decline of the parity price of such crops as wheat which will ultimately drop 37¢ bu.

Authority to plant small grain crops on land taken out of basic crop production does provide some financial comfort for the farmer whose land is involved in those crops, but the race against time which Mr. Benson faces is that of smoothing the transition path so that farm ownership can be adjusted as necessary, with shifts to other types of farming encouraged and accomplished before the financial bottom of the barrel is reached.

Economists at USDA realize this need for speed although those below top policy levels say they are not aware of any activity within USDA at this time to stimulate any such proposals as above at this session of Congress.

DISEASE VICTIM

PROVIDENCE, R.I. — A 300-year-old Roger Williams elm, a victim of the Dutch Elm disease, belted by three hurricanes in 1954, is to be felled along with 114 other ravaged and hurricane damaged trees on Providence city property. The elm, on Prospect Terrace, is about 45 ft. high and 15 ft., 10 in. in circumference at a point four feet above the ground.

George H. Serviss Heads ACS Division

NEW YORK — George H. Serviss, agronomist for the G. L. F. Soil Building Service, Ithaca, N.Y., has been elected 1955 chairman of the American Chemical Society's Division of Fertilizer and Soil Chemistry. He succeeds Jesse D. Romaine, secretary and chief agronomist of the American Potash Institute.

Dr. G. L. Bridger, head of the department of chemical engineering in Iowa State College, has been named vice chairman, and Dr. Stacy B. Randle, state chemist at the New Jersey Agricultural Experiment station, was chosen secretary.

Plant Diseases Cause 30-50 Million Dollar Loss in Arkansas

LITTLE ROCK—Plant diseases inflict between $30 and $50 million in damages to Arkansas crops annually, Harlan E. Smith, Arkansas extension plant pathologist, estimated recently.

The disease loss is so severe that it may now mean the difference between profit and loss for the Arkansas farmer, he said.

He reported that cotton disease losses average about 15% of the crop and that losses in tomatoes are even higher.

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A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The rotational circulation of this issue is concentrated in the Midwestern states.

Label Requirements Lowered

A significant step in the right direction was taken recently by the U.S. Department of Agriculture when it approved a relaxation in the poison classifications of a number of pesticides. These included insecticides, growth inhibitors and rodenticides which previously had been required to carry various warnings, caution statements and in some cases, skull and crossbone insignia to prevent careless use.

Now, the Pesticides Regulation Section of USDA has placed many of the well-known agricultural insecticides and other chemicals in a lower hazard category. Label terms such as "poison" and "antidote" as well as directions to "call a physician immediately" are no longer required in many instances where they were previously. Another relaxation is seen in the substitution of the milder term, "Hazardous" in the warning statement in place of the word "Poisonous."

These new classifications are seen as a direct consequence of the safe use record established by these newer pesticides which many thought earlier were altogether too potent for general application.

We think that USDA is to be commended upon its action, particularly in view of the fact that it could have chosen to let the matter ride and maintain a policy of exaggerated caution in the matter of labels.

Actually, tests have been made beyond the laboratory which have done much to gain a clear picture of the true situation. As one prominent manufacturer points out in commenting on the USDA action, "In the course of manufacture and packaging of these products, there have been instances of exceptionally high exposure to them; higher than would ever be likely to occur from their normal use. In all such cases, no demonstrable harm has resulted. Precautions for use are similar to those recommended for other chlorinated hydrocarbon insecticides, i.e., adequate care should be taken to avoid breathing dust and sprays and to avoid skin contamination."

Pesticide manufacturers the country over appreciate this vote of confidence on the part of government. It is a direct response to good behavior records in actual use over a period of several seasons.

Price Supports a Mainstay?

Amidst all the political talk about the role of price supports in farm income, we often wonder if, after all, supports should be considered the backbone of the agricultural economy. In looking around, we find that others, far more competent to judge, are also raising the question about just how important price props should be.

O. B. Jesness, head of the University of Minnesota's Department of Agricultural Economics, says that the role of price supports in farm income is often exaggerated with the result that they are portrayed as the mainstay of a prosperous agriculture. Actually, he points out, supported basic commodities bring in only a minor share of the total farm income.

In elaborating on his views in a recent talk, Mr. Jesness said that one limitation of a price support program is the high cost of buying and holding large enough stocks of farm produce to make supports effective. He pointed out that price supports were much more "modest" in the 1930's and that World War II and the Korean police action "bailed us out" of surplus situations which threatened big losses of stored products.

He expressed the opinion that "costs have to be faced" and supplies of farm products cannot be permitted to accumulate without limit.

Only about two million of the nation's 5,382,000 farms counted in the 1950 census produce nearly 85% of the farm products. These farms, he pointed out, are reached by price supports.

However, we think of average incomes of all farms as being truly representative, although a million of them are simply rural residences, another 640,000 are part-time farm operations, and still another 1,500,000 produce too little for a satisfactory income, he said. "There's much greater reason for being concerned over the fact that many farm units are too small to provide the income level Americans expect than there is reason for fearing that the family farm will disappear."

This situation points up the philosophy long expounded by the agricultural chemical industry . . . that the use of new chemical tools such as pesticides, fertilizers, weed killers and defoliants can increase farm income by lowering the unit cost. This principle remains the same regardless of whether the operation involved is large or small; a "family farm" or a huge commercial enterprise.

Pesticidal Abundance

"Today, approximately 100 pesticidal chemicals are in use or available for use, and over 30,000 pesticide formulations have been registered for labeling and use by the Insecticide Division of the U.S. Department of Agriculture.

"Each pesticidal chemical and each pesticide has its distinct advantages, disadvantages, and special uses. Therefore, just as the physician and the pharmacist require a generous assortment of pharmaceuticals for the compounding of prescriptions, so, too, the agriculturist and the pesticide dealer should have ready access to the largest possible assortment of chemicals so that they may likewise prescribe specific treatments to fit specific conditions. Many new pesticides have been developed which are more effective for specific purposes than are the materials previously used for those same purposes. The use of these new chemicals in agriculture parallels developments in the field of medicine where sulfa drugs and the new antibiotics are now frequently recommended and used in the place of the less efficient drugs which were in common use a few years ago."—From "Safe Use of Chemical Additives in Foods" by the Food Protection Committee, Food and Nutrition Board, National Research Council of the National Academy of Sciences.

Quote

"The fertilizer industry has been undergoing a great change toward high analysis goods. Also, there have been many large nitrogen plants built throughout the country during recent years and production of this material has about tripled during the past 10 years. Many large companies not heretofore interested in fertilizer are now in the business. Farm equipment manufacturers, oil companies, distillers, coal operators, chemical companies and others are now operating or building large nitrogen plants. Thus, the greater production and use of nitrogen will require increased application of phosphate and potash. Also, potash and phosphate production has been greatly increased during recent years. There are probably no materials on which economists are more agreed that the demand and consumption will be steadily upward, than agricultural minerals and chemicals."—Louis Ware, president, International Minerals & Chemical Corp., in talk before New York Society of Security Analysts.

CROPLIFE is a controlled circulation journal mailed to those responsible for the production and distribution of fertilizer and other farm chemicals and to retail dealers of the agricultural chemical industry in the U.S. To those not on the controlled list, CROPLIFE is available at $5 for one year, $9 for two years ($8 a year outside the U.S. and possessions). Single copy price, 25¢.

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MEETING MEMOS

Jan. 14—Mississippi Section, American Society of Agronomy, State College, Mississippi. Harrison Evans, Shuqualak, Miss., president.

Jan. 17—Iowa Fertilizer Manufacturers' Conference, Iowa State College, Ames, Iowa.

Jan. 17-19 — Southern Weed Conference, Soreno Hotel, St. Petersburg, Fla., Dr. Earl G. Rodgers, University of Florida, conference secretary.

Jan. 17-19—Cotton States Branch, Entomological Society of America, Annual Meeting, Tampa Terrac Hotel, Tampa, Fla.; W. G. Eden, Department of Zoology-Entomology, Alabama Polytechnic Institute, Auburn, Ala., secretary-treasurer.

Jan. 17-19—Pacific Northwest Vegetable Insect Conference, Imperial Hotel, Portland, Ore. (Open meetings Jan. 19 at Benson Hotel in connection with Pacific Northwest Agricultural Chemical Industry Conference.)

Jan. 18—Georgia Plant Food Educational Society, Third Annual Meeting, University of Georgia, Athens.

Jan. 18—Iowa Fertilizer Dealers' Short Course, Iowa State College, Ames, Iowa.

Jan. 19-21—Pacific Northwest Agricultural Chemical Industry Conference, Benson Hotel, Portland, Ore., sponsored by the Western Agricultural Chemical Assn.

Jan. 19-21 — Northwest Cooperative Spray Project, Imperial Hotel, Portland, Ore. (Open meetings Jan. 21 at Benson Hotel in connection with Pacific Northwest Agricultural Chemical Industry Conference.)

Jan. 20-21—Illinois Custom Spray Operators School, Illini Union, Urbana, Ill.

Jan. 24-25 — Aircraft and Ground Spraying Short Course, Institute of Agriculture, University of Minnesota, St. Paul.

Jan. 24-26—Pennsylvania Lime and Fertilizer Salesmen's School, Pennsylvania State University, State College, Pa.

Jan. 26—Northern California Nurserymen's Institute, University of California College of Agriculture, Davis, Cal.

Jan. 26-27—Eighth Annual California Weed Conference, Carbillo Hotel, Santa Barbara, Calif.

Jan. 28 — Colorado Agricultural Chemicals Assn., Annual Meeting, Cosmopolitan Hotel, Denver, W. D. Smith, P.O. Box 5510, Denver 17, President.

Feb. 7-9 — Association of Southern Agricultural Workers, 52nd annual meeting, Louisville; B. B. Jones, P. O. Box 1460, New Orleans, secretary-treasurer.

Feb. 8-11 — Fertilizer-Seed Dealers Conference, University of Tennessee, Knoxville, Tenn.

Feb. 10-11 — Third Annual Oregon Fertilizer Conference, Oregon State College, Corvallis, Ore.

Feb. 10-11—Crop and Soil Conference, Oklahoma A. & M., Stillwater, Okla.

Feb. 14-16 — Centennial Symposium, Nutrition of Plants, Animals, Man, Michigan State College, East Lansing, Mich.

Feb. 17-18—Middle West Soil Improvement Committee, Annual Meeting with Agronomists, Palmer House, Chicago, Z. H. Beers, 121 W. Wacker Drive, Chicago 1, Ill., Executive Secretary.

Feb. 23-25—Tenth Annual Meeting of Midwestern Chapter, National Shade Tree Conference, Chase Hotel, St. Louis, N. B. Wysong, Cook County Forest Preserve, 536 N. Harlem Ave., River Forest, Ill., secretary-treasurer.

Feb. 23-25 — Fourth Annual Ohio-Indiana Agricultural Aviation Conference, Union Bldg., Purdue University, Lafayette, Ind.

March 8-9—Western Cotton Production Conference, Hotel Westward Ho, Phoenix, Ariz.; National Cotton Council, P.O. Box 18, Memphis 1, Tenn.

March 22-24—National Farm Chemurgic Council, Inc., Annual Conference, Deshler-Hilton Hotel, Columbus, Ohio; John W. Ticknor, NFCC, 350 Fifth Ave., New York, conference chairman.

June 28-30 — Sixth Annual Pacific Northwest Plant Food Assn. Regional Fertilizer Conference, Boise Hotel, Boise, Idaho, Leon S. Jackson, 702 Lewis Bldg., Portland, Ore., secretary.

Aug. 15-19 — American Society of Agronomy and Soil Science Society of America, University of California, Davis Campus.

Sept. 7-9 — Ninth Annual Beltwide Cotton Mechanization Conference, Texas A&M College, National Cotton Council of America, Box 18. Memphis 1, Tenn.

Nov. 2-3 — Annual Convention, Pacific Northwest Plant Food Assn., Pilot Butte Inn, Bend Ore., Leon S. Jackson, 702 Lewis Bldg., Portland, Ore., Secretary.

Dec. 5-7—Agricultural Ammonia Institute, Kansas City; Jack F. Criswell, Executive Vice President, Claridge Hotel, Memphis, Tenn.

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ALLENTOWN, PA. — H. Stanley Hangen, vice president of St. Regis Sales Corp., subsidiary of St. Regis Paper Co., retired from the company Dec. 31 after 34 years of association with the firm. He will continue to serve in a consulting capacity, however. Mr. Hangen's career with St. Regis began in 1920 when he joined the company as a field engineer at Nazareth, Pa. He now makes his home in Allentown.

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CROPLIFE is the only *complete sales medium* directed to the agricultural chemical industry. It is a *weekly* newspaper appealing to all segments of the industry. One of its editorial functions is to knit more closely together all those industry elements—manufacturers, agents, retailers, the educational echelon and farm advisor groups. It does this by:

- Keeping all segments informed of all industry news.
- Providing feature material designed to help manufacturers and mixers to do a better job, to help dealers sell and to help farm advisors and educational people make sound recommendations.
- Keeping all industry alert to current and proposed government action.
- Providing a channel through which news and advertising can reach all segments of the industry.

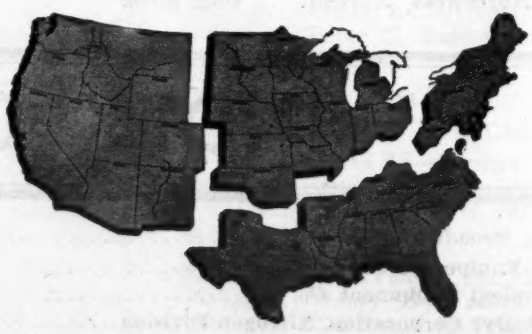
This new approach to business journalism for the agricultural chemical industry is being made by a company with 80 years of experience in newsgathering and publishing and one which has built an unchallenged reputation for reliability and service. Advertising of your products and services in Croplife will mean *richer sales fields* for you!

National Coverage Weekly . . .

Croplife's carefully controlled circulation provides national weekly coverage of manufacturers, formulators, mixers and ingredient suppliers.

Plus Rotational Coverage by Crop-areas . . .

In addition, a unique rotational circulation plan provides advertisers with a selective crop-area coverage of wholesale and retail dealers and farm advisory personnel.



In addition to its national coverage, Croplife offers a selective rotational circulation plan in these crop-areas

WRITE—WIRE—PHONE our nearest office for a complete analysis of Croplife's important role in your advertising program.

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